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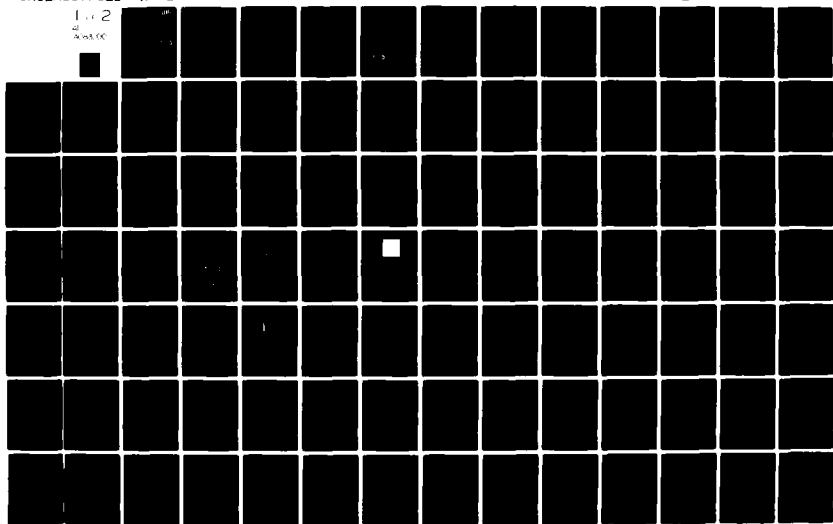
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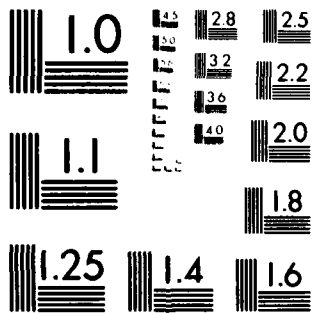
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A REVIEW AND BIBLIOGRAPHY OF SECONDARY ION MASS SPECTROMETRY
(SIMS)

W. L. Baun
Mechanics and Surface Interactions Branch
Nonmetallic Materials Division

January 1980

TECHNICAL REPORT AFML-TR-79-4123

Report for Period June 1978 - June 1979

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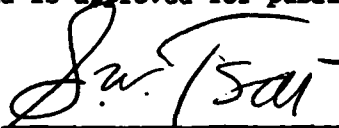
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20. Continued

SIMS analysis, is seen to be heavily influenced by oxygen either in the primary beam or on the surface. The advantages and limitations of depth profiling by SIMS are shown. Methods of neutralizing the positive charge accumulation on the surface are discussed. Two methods of imaging secondary ions are detailed and a combination of the SEM with SIMS is also discussed. The increasing popularity of SIMS is seen to be primarily due to the complementary nature of this technique with other surface methods. Applications of the method either as a stand-alone technique or in use with other techniques are seen to be very diverse.

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FOREWORD

This technical report was prepared by W. L. Baun, Mechanics and Surface Interactions Branch, Nonmetallic Materials Division, Air Force Materials Laboratory (AFML/MBM). This work was initiated under Project 2419, "Nonmetallic and Composite Materials" and was administered by the Air Force Materials Laboratory. Work Unit Directive Monitor was T. W. Haas.

This report covers literature collected over the period June 1978 to June 1979 in the area of secondary ion mass spectrometry which is used to characterize adhesive bonding materials. The report was released by the author in June 1979.

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SECTION I

INTRODUCTION

If a solid surface is bombarded by energetic ions, a complex process of energy transfer and electronic interaction occur in the surface and near surface of the solid. As a result of these interactions at the surface, electrons and atomic and molecular particles are ejected and photons are emitted. The interaction of the energetic ions with the solid results in the transfer of energy to ions and atoms in the solid and subsequent ejection of both neutral and ionized species.

The first SIMS experiments were performed in the late 1930's by Arnot and co-workers (Reference 1). The technique lay essentially fallow until 1949 when Herzog and Viehbock (Reference 2) described an ion source for mass spectrometry using the sputtering process, but even after this brief resurgence, it was almost ten years until further interest was evidenced by workers in this field. Honig (Reference 3) in 1958 began a rise of interest in the SIMS technique which widened during the 1960's. Reviews of early literature were published by Carter and Colligon (Reference 4) and Kaminsky (Reference 5). More modern reviews with emphasis on the SIMS technique as applied to surface analysis, have been authored by Benninghoven (Reference 6) and Werner (Reference 7). It is the purpose of this review to discuss fundamental concepts, advantages and disadvantages of SIMS for surface analysis along with collision phenomenon, such as sputtering and implantation. Equipment for the SIMS method will be briefly described. Aspects of secondary ion mass spectra will be considered including the species of the secondary ions, the ion yield, and experimental parameters. The complementary nature of SIMS to other surface characterization methods will be discussed. Finally, applications of the SIMS method will be considered. Appendices concerning nomenclature, isotopic abundances, and the sources of information on SIMS are included.

SECTION II

FUNDAMENTAL CONCEPTS

When a surface is bombarded with ions, atomic and molecular particles, electrons and photons are emitted from the surface as seen in Table 1 (Benninghoven). The ion as it strikes the surface and penetrates into the solid can undergo numerous collision processes, as seen in Figure 1 (Winters). The process under consideration here is No. 5 as seen in Figure 1; the reflected ion giving energy to a surface atom which is sputtered. A review of experimentation and theory of physical sputtering was prepared by Winters (Reference 8). The sputtering species, which are moved from the surface, are made up of both positive and negative ions, as well as neutral particles. Neutral particles have much greater abundance than ionic species and have also been used for surface analysis.

TABLE 1
EFFECT OF ION IMPACT ON A SOLID SURFACE INCLUDING EMISSION
PROCESSES & CHANGES IN THE SURFACE ZONE

EMISSION PROCESSES	CHANGES IN THE SURFACE OF THE TARGET
Atomic and molecular particles	Loss of surface particles
Neutrals	Sputtering
Positive ions	Recoil implantation
Negative ions	
Excited particles	Implantation
Electrons	Primary ions
Surface processes (Auger	Surface atoms (recoil)
de-excitations, e.g.)	
Bulk processes (ionization, e.g.)	Lattice destruction
	Imperfections
	Amorphization
Photons	
Gas phase processes	Chemical effects
Surface processes	Breaking of bonds
Bulk processes	Bond formation

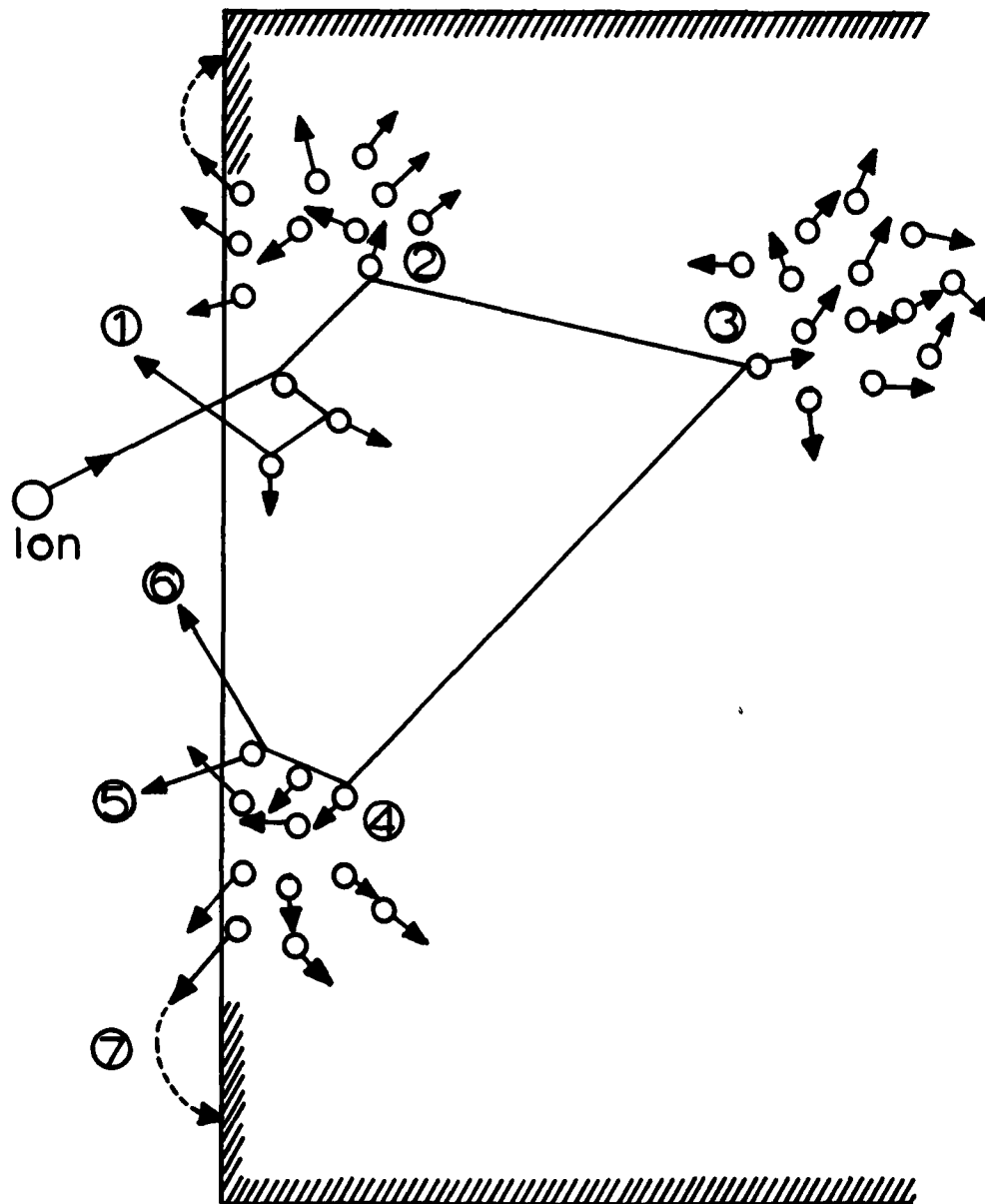


Figure 1. Schematic of Possible Collision Processes which Occur Under Ion Bombardment (Reference 8)

Surface analysis by SIMS falls into two categories; low current density sputtering and high current density sputtering. Categories are determined by the characteristics of the primary ion beam. A low current density sputtering analysis results in a very small fraction of the surface being disturbed, a result that approaches a basic requirement of a true surface analysis method. This is generally known as the static SIMS method (SSIMS). High current density sputtering removes a great deal of material, but is required for obtaining elemental depth profiles. In the high current density method, significant changes are seen in the surface and near surface regions. Table 2 (Benninghoven) shows the effect of ion impact on a solid surface including the emission process and changes in the surface zone. Figure 2 (Benninghoven) also shows schematically the induced changes in the surface zone of a solid due to ion bombardment and shows three different zones; an emission zone, an implantation zone, and a lattice destruction zone. These zones then are defined as A) a loss of surface atoms out of the emission zone as a consequence of emission of molecular and atomic particles and recoil implantation; B) implantation of primary ions and recoil surface atoms; C) changes in the lattice structure, as for example, creation of imperfections, amorphous states and so forth. In addition, other low energy processes, such as the breaking of chemical bonds and the formation of chemical bonds, are also caused by ion bombardment. The escape depth for sputtered particles varies greatly and is strongly dependent on the energy of the primary ion, the mass of the primary ion, and the mass of the atoms of the target. To determine whether a particle will leave the surface as a neutral species or as an ion is a complex, quantum mechanical problem involving ground and excited state interactions of the atom or molecule with the solid. Numerous workers (Werner (Reference 7), McHugh (Reference 9), Benninghoven (Reference 6)) have discussed possible mechanisms for emission of secondary ions. Joyes (Reference 10) has reviewed the theoretical mechanisms of secondary ion emission. For moderate energy sputter ion beams, a major contributor to the secondary ion yield is resonance and autoionization of excited species that emerge from the solid phase to vacuum. A less important contribution to the ion yield is resonance ionization of ground state species. An explanation by Schroeer (Reference 11) for the emission of positive ions from metals assumes that

TABLE 2

MAIN FEATURES OF SIMS AS A SURFACE ANALYSIS METHOD (REFERENCE 6)

- | | |
|-----------|--|
| Positive: | <ul style="list-style-type: none"> - Information depth in the "monolayer range" - Detection of all elements including hydrogen - Detection of chemical compounds - "Lateral resolution" in the range of atomic distances - Isotope separation - Extremely high sensitivity for many elements and compounds ($<10^{-6}$ monolayers) - Quantitative analysis after calibration - Negligible destruction of the surface (SSIMS) - Elemental Profiling (Dynamic SIMS) |
| Negative: | <ul style="list-style-type: none"> - Large differences in sensitivity for different "surface structures" (factor 1000) - Problems in quantitative interpretation of molecular spectra - Ion induced surface reactions |

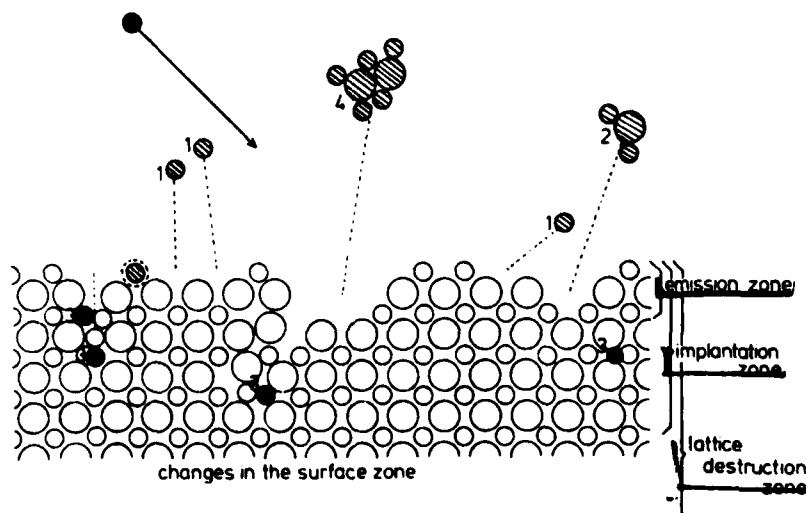


Figure 2. Induced Changes in the Surface Zone Due to Sputtering (Reference 6)

the sputtered particle leaves the surface as a neutral atom in the ground state and is ionized via transition of the atom electrons to the top of the conduction band in the metal.

Regardless of the exact mechanism and production, the SIMS method as a technique for surface analysis has several advantages as seen in Table 2 (Benninghoven). Of the positive attributes listed probably the extremely high sensitivity for many elements is the greatest advantage of SIMS. On the other hand, the extremely large differences in sensitivity for different surface structures is the largest negative factor involved in SIMS analysis. More specifically, the following comments on the SIMS technique were aired by Czanderna and co-workers (Reference 12) in a recent review.

1. DETECTION SENSITIVITY

The outstanding feature of SIMS is the detection sensitivity of 10^{-6} to 10^{-4} of a monolayer for surface analysis, depending on how fast the surface has sputtered away. Except for slight variations in the transmissivity of ions with different masses, there is no Z dependence on the detection sensitivity of a properly designed SIMS apparatus. Furthermore, the absence of an inherent background permits detection of trace amounts of 10^{-2} to 1 ppm atomic. As little as 10^{-18} grams of the sample species may be sufficient to provide a detectable signal. Thus, using care in the instrument and bombardment parameters, signals may be restricted to one to two monolayers.

2. ISOTOPIC IDENTIFICATION

Isotopic labeling of ions could be used for study of reaction mechanisms. Despite the apparent potential, the literature contains little mention of isotopic labeling in conjunction with SIMS analysis of the surface.

3. IDENTIFICATION OF HYDROGEN

The detectability of hydrogen by SIMS provides a routinely available capability not possible with other commercially available surface analysis equipment.

4. CHEMICAL IDENTIFICATION

The complex spectra presented provide an opportunity to unravel chemical information about surface compounds.

5. IN-DEPTH PROFILING

The ability to sputter surfaces rapidly and to maintain a constant monitor of the composition is one of the outstanding features of SIMS. As with any depth profiling process resolution at the interface is limited by the damage caused by sputtering rather than by the apparatus.

6. IMAGING

Ion microprobes provide capability to image the surface under investigation. Czanderna and co-workers also make some pertinent comments on limitations of the SIMS method. They point out that first and foremost SIMS requires destruction of the sample for analysis. There is no chance for a second look at the same spot on the sample. Secondly, the factors causing large variations in the production of secondary ions make routine quantification only a remote hope. Using standards and well-studied systems, quantitative SIMS to better than the 20% of the surface layers is possible, but the cost of extensive prior work may not be warranted. Finally, matrix effects, e.g., the variation in the signal of the same element in different chemical environments can alter the detectability of trace amounts by factors of 10^2 to 10^4 .

SECTION III

EQUIPMENT

All SIMS experiments require a vacuum chamber to house the experiment, a sample holder, an ion source, an energy analyzer, and a mass analyzer as seen in Figure 3. Use of the characteristics of imaging instruments have been made by Socha (Reference 13) and fundamental concepts of both imaging and non-imaging instruments by McHugh (Reference 9). Most non-imaging instruments are generally called SIMS instruments. Imaging instruments are usually called ion microprobes. A schematic of a typical ion microprobe mass analyzer is shown later in the discussion of imaging. Usually such imaging instruments have vacuum capabilities in the very high vacuum region rather than in the UHV. Also used are high sputtering rates and ion voltages in the range of 10 kv or more. This is in contrast to new designs for SIMS using quadrupole mass analyzers where vacuum capabilities in the range of 10^{-10} Torr are possible. In the static SIMS method where very slow sputtering rates are used for analysis, the capabilities must be such that the recontamination rate for residual gases do not exceed the sputtering rate. SIMS instruments also vary according to the total pressure in the system. In most instruments the noble or reactive gas fills the system and the entire chamber, including the ion gun and sample area, are at approximately 1 to 5×10^{-5} Torr. Such an instrument is typified by the commercial equipment manufactured by the 3M Co. (3M Co., St. Paul, Minnesota). Another type of instrument is one in which the performance is improved through the use of a differentially pumped vacuum system to produce ultra high vacuum in the vicinity of the sample. This also allows the entry of a reactive gas in the sample chamber area while sputtering with a noble ion for studying chemical changes or reactions on the surface. An instrument of this type from the recent literature (Reference 15) is shown in Figure 4. Still another improvement made to the SIMS instruments is the mass analysis of the primary beam (Reference 16). Such an instrument design is shown in Figure 5. In addition to mass analyzing the primary beam is this instrument, beams less than 70 micrometers in diameter are used with current densities

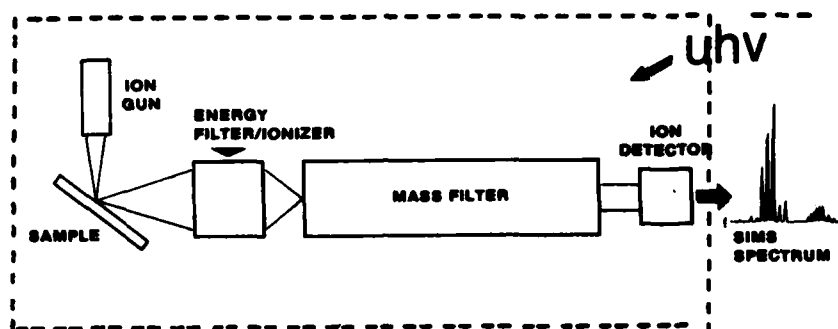


Figure 3. Major Components of a SIMS Experiment

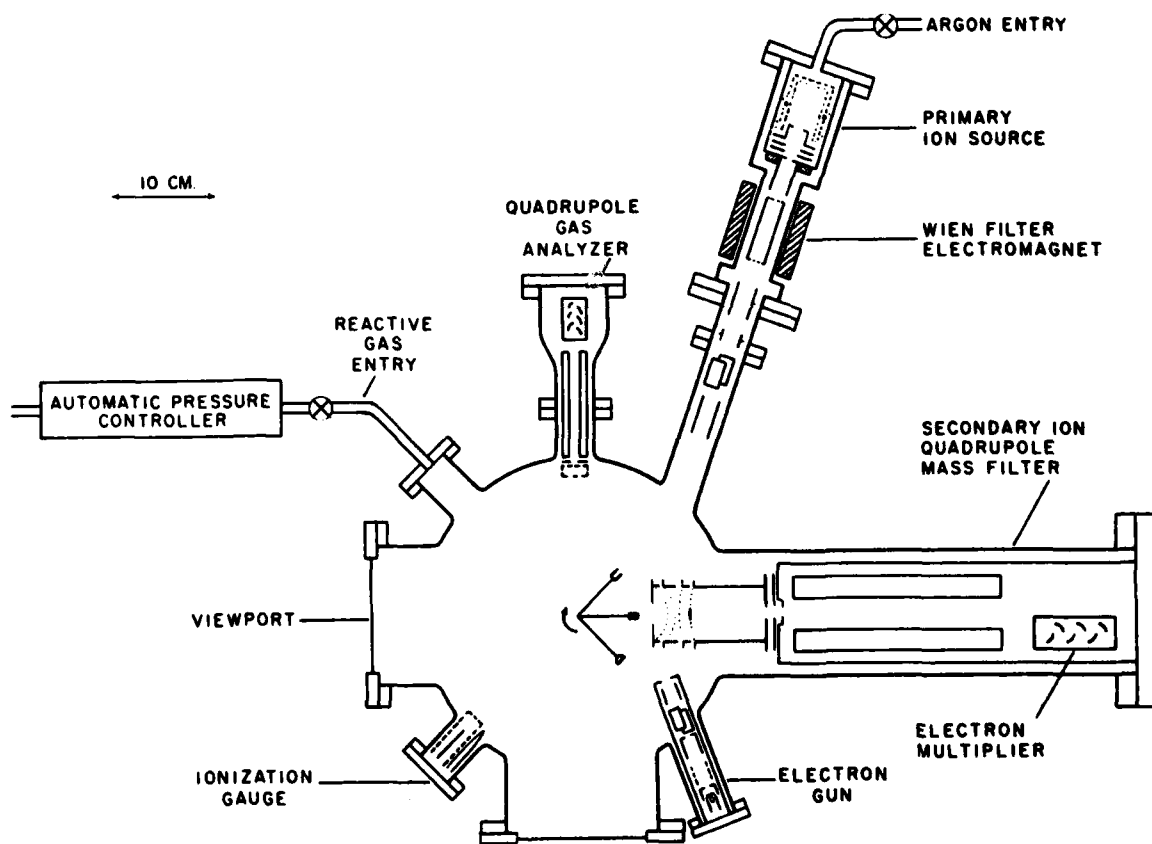


Figure 4. A General View of the Secondary Ion Mass Spectrometer System (Reference 15)

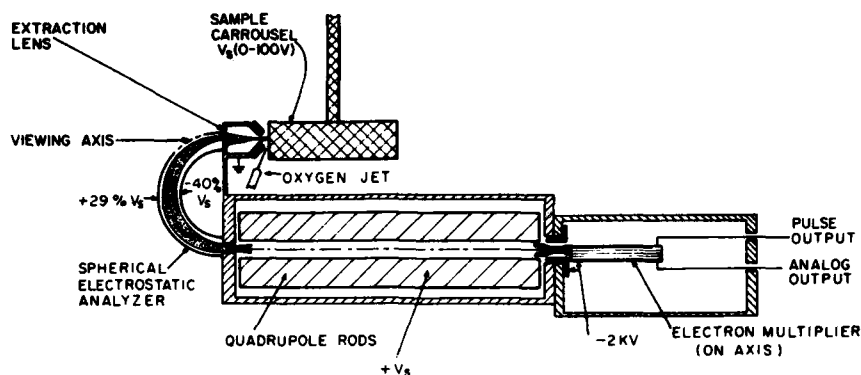


Figure 5. SIMS Apparatus Using a Spherical Electrostatic Analyzer (Reference 16)

greater than 25 milliamperes per square centimeter. Beam rastering and electronic signal gating make this instrument especially applicable to the production of high quality depth profiles. These authors point out that an ultra high vacuum system is an absolute necessity to reduce the adsorption of background gases on the sample surface during sputtering for in-depth profiling of carbon, oxygen, nitrogen, and especially hydrogen.

The energy filter is made up generally of several elements whose function is to optimize collection of the secondary ions, and to filter and focus the ions at the entrance to the mass analyzer. The energy analyzer as used by Dawson and Redhead is seen in Figure 6. The grid radii are chosen to increase the acceptance angle at the target and to produce a converging beam at the quadrupole mass analyzer entrance. An interesting design utilizing conically shaped elements was developed by Dowsett et al (Reference 17). Magee and co-workers (Reference 16) used a spherical electrostatic analyzer in front of the quadrupole elements to allow selection of specific areas in the crater and the use of an on-axis electron multiplier in the quadrupole mass analyzer. Much simpler designs also perform well, such as the two analyzers seen in Figure 7.

Secondary ions may be mass analyzed with virtually any kind of mass spectrometer. Most imaging instruments use double focusing mass spectrometers. The majority of modern secondary ion mass spectrometers for surface characterization use quadrupole mass filters. Some use a dual

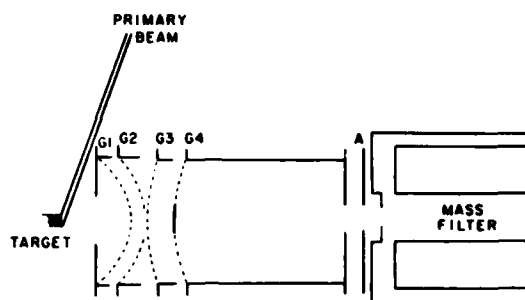


Figure 6. Detail Showing the Arrangement of the Energy Analyzer (Reference 17)

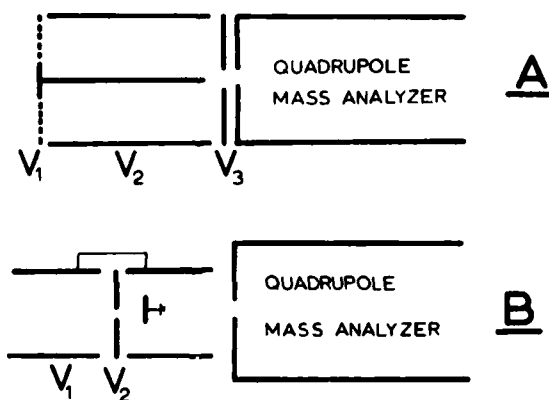


Figure 7. Simple Energy Analyzers

system in which a magnetic sector is used to separate the primary ions and a quadrupole is used to detect secondary ions as shown in Figure 8 (Reference 26).

The radio frequency quadrupole mass analyzer has a number of advantages for secondary ion mass spectroscopy. Among the inherent characteristics of the quadrupole filter are: A) Particle separation is on the basis of charge to mass ratio rather than on other properties, such as velocity or momentum; B) Axial energy acceptance is over a relatively wide range; and C) Transmission efficiency approaches 100% under certain operating conditions. One attractive aspect of the quadrupole is that only radio frequency fields are required making the analyzer relatively light and structurally compact compared to magnetic instruments. Operating design also allows very rapid spectrum scanning rates (orders of magnitude greater than most magnetic instruments). This allows a real-time oscilloscope display of SIMS data. In addition, the geometry of the quadrupole is such that only an external ionizer is needed to provide residual gas analysis (RGA) capability.

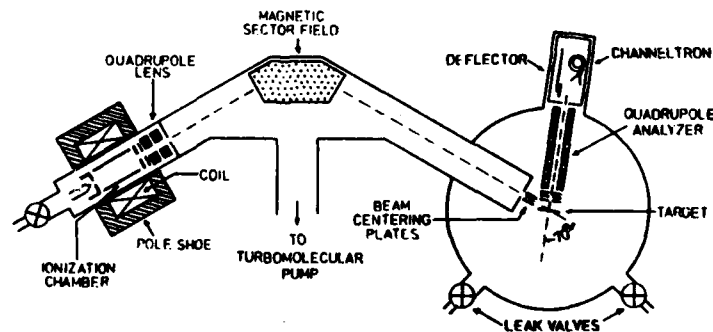


Figure 8. Magnetic Sector Design to Separate Primary Ions (Reference 26)

SECTION IV

SECONDARY ION MASS SPECTRA

Benninghoven (Reference 18) used a simple two-component lattice of metal and oxygen to answer the question "What types of ions will be emitted from a given surface structure?" During the sputtering process, particles of this lattice will be emitted from the surface, both as single atoms and as clusters. Plog, Wiedman, and Benninghoven (Reference 27) evaluated data from oxidized metals and established a formula which allows calculation of absolute yields of metal and oxygen ions. Benninghoven (Reference 18) makes the assumption that one condition of the formation of a cluster is that the cluster atoms are located on adjacent sites of the lattice before emission. It was pointed out that in the case of a metal-oxygen lattice, we can expect particles of the composition $M_m O_n$. This way a matrix of possible clusters was established. The formation probability of a particle cluster is a complicated function of many parameters, such as the charge state of an emitted ion. In principle, each fragment can be ejected as a positively or negatively charged ion or as a neutral particle. In the case of the metal oxygen surface structures, it has been learned from experimental results that for emitted particles there is a tendency for charge conservation related to the charge state in the lattice (Reference 18). Therefore, we should expect the preferential emission of positive metal ions M^+ and negative oxygen ions O^- for a metal-oxygen structure. The yield of secondary molecular ions depends on the electronic properties of the molecular ion, particularly the dissociation energy of the complex. Joyes (Reference 10) has used semi-empirical quantum chemical calculations to explain a number of experimental observations relating to relative molecular ion yields. Instruments not using ultra high vacuum or instruments using reactive sputtering frequently show many more molecular ions than those in which noble gas ions are used in an ultra high vacuum system. Elements with many isotopes frequently combine to form extremely complicated spectra. Werner (Reference 7) points out that it is most advantageous for chemical analysis to work in a mode which preferably gives atomic ions; on the other hand, he says that for studies of chemical

bonding, polyatomic ions, which constitute the fingerprint spectrum of a given compound, can be used to advantage. Molecular ions may be discriminated from atomic ions because of the different energy distribution of the two groups. The energy spectrum of the distribution of Al_3^+ and Al^+ is much different, as shown by Herzog and co-workers (Reference 19). An illustration of their work using discrimination on initial energy distribution is shown in Figure 9. By setting an energy band, one can favorably increase the intensity of the atomic species, such as Al^+ , with respect to the cluster ion, such as Al_3^+ . On the other hand, the cluster ions can be used as a clue to the molecular species on the surface, and the method has been extended into the analysis and characterization of organic materials. This makes this technique invaluable for studying the adsorption characteristics of various surfaces to liquids and gaseous compounds. An example of a negative SIMS spectrum of adsorbed molecules is shown in Figure 10 (Reference 6).

More recent results have been shown and are summarized in Table 3 on a variety of materials such as vitamins, peptides, and amino acids (Reference 28). An example of positive and negative secondary ion spectra is shown for ascorbic acid in Figure 11.

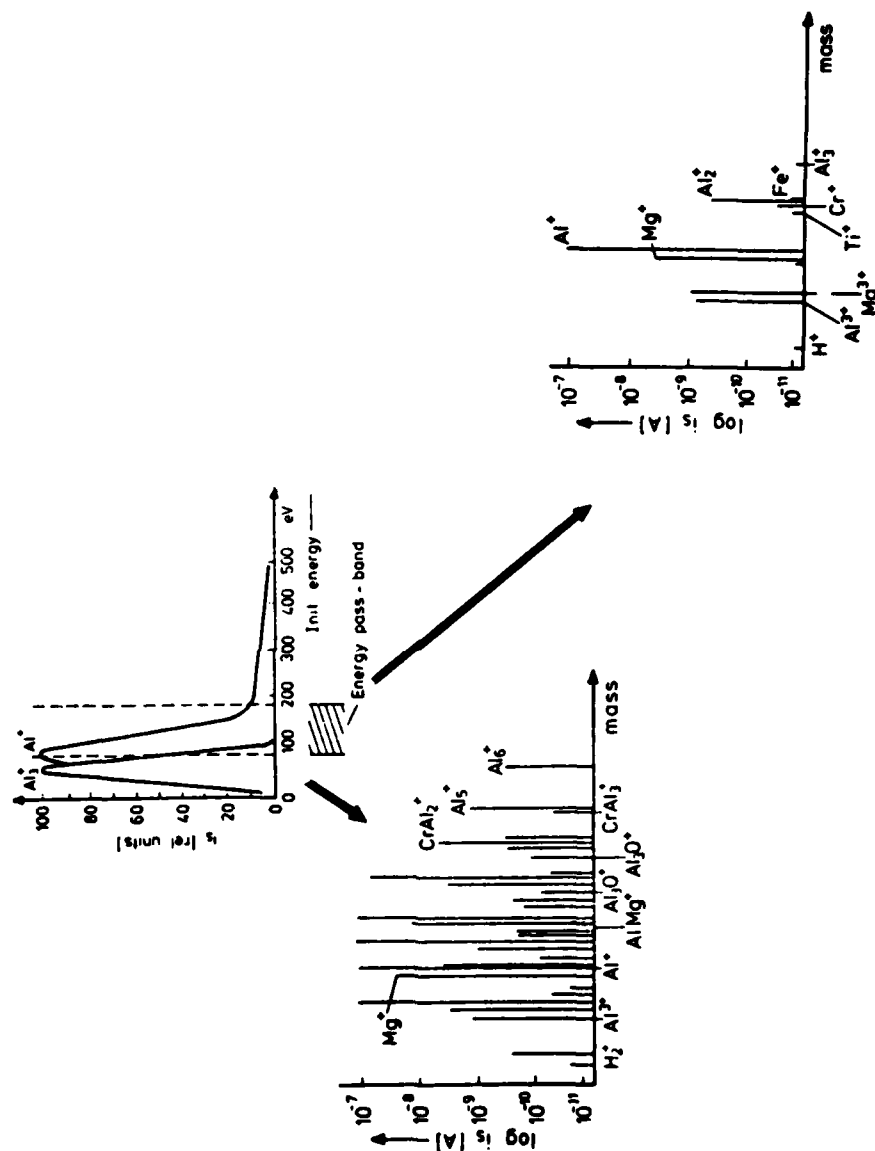
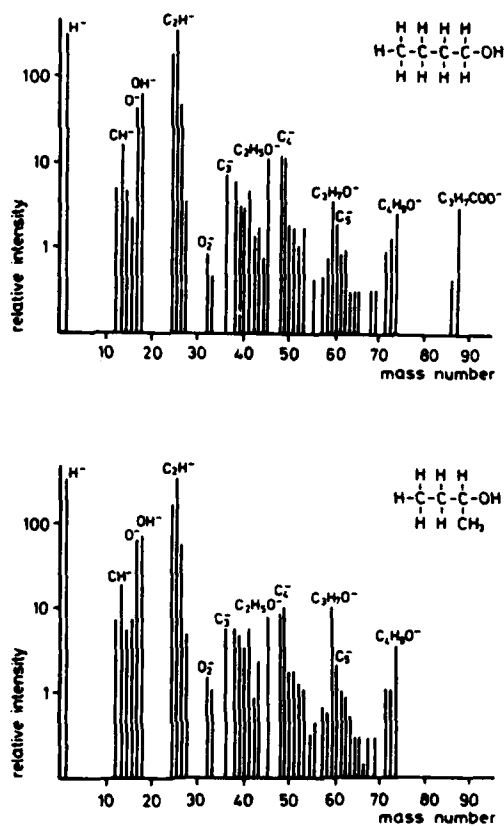


Figure 9. Energy Distribution of Secondary Ions and Spectra from Each Region (Reference 19)



Surface oxidation to the corresponding acid is possible only for the secondary alcohol (C_3H_7COO emission, upper spectrum)

Figure 10. Secondary Ion Spectrum of Adsorbed Molecules: 1- & 2-Butanol on Molybdenum (Reference 6)

TABLE 3

ABSOLUTE YIELD OF "PARENT LIKE" SECONDARY IONS OF ORGANIC COMPOUNDS ON SILVER (REFERENCE 28)

			yield S(X) x 100 L		
			(Number of secondary ions x 100, per incident primary ion)		
	formula	mol wt	(M + H) ⁺	(M - H) ⁻	(M - COOH) ⁺
I. amino acid					
glycine	C ₂ H ₅ NO ₂	75	120.0	-	52.0
α-alanine	C ₃ H ₇ NO ₂	89	21.0	40.0	53.0
β-alanine	C ₃ H ₇ NO ₂	89	88.0	19.5	7.2
phenylalanine	C ₉ H ₉ NO ₂	165	4.0	0.3	13.0
serine	C ₃ H ₇ NO ₂	105	61.0	18.0	61.0
threonine	C ₄ H ₉ NO ₂	119	8.3	2.6	13.8
proline	C ₅ H ₉ NO ₂	115	19.2	8.8	72.0
valine	C ₆ H ₁₁ NO ₂	117	8.0	8.3	32.0
leucine	C ₆ H ₁₃ NO ₂	131	0.8	26.4	40.0
norleucine	C ₆ H ₁₃ NO ₂	131	24.8	6.5	76.0
arginine	C ₆ H ₁₃ N ₂ O ₂	174	7.2	2.4	2.1
tyrosine	C ₉ H ₉ NO ₂	181	7.4	-	13.6
tryptophan	C ₁₁ H ₁₁ N ₂ O ₂	204	3.5	0.8	3.5
cysteine	C ₃ H ₇ NO ₂ S	121	12.0	11.0	15.0
cystine	C ₆ H ₁₂ N ₂ O ₂ S ₂	240	4.0	1.6	1.8
methionine	C ₅ H ₁₁ NO ₂ S	149	13.1	5.4	9.4
ethionine	C ₆ H ₁₃ NO ₂ S	163	13.6	5.6	12.0
glutamine	C ₆ H ₁₂ N ₂ O ₂	146	7.2	8.3	4.3
II. derivatives of amino acids					
			(M - H) ⁻	(M' - H) ⁻ ^a	(M - Cl) ⁺
glycine ethylester HCL	C ₅ H ₁₀ ClNO ₂	139	-	1.6	180.0
alanine ethylester HCL	C ₆ H ₁₂ ClNO ₂	153	-	-	48.0
cysteinium HCL	C ₃ H ₇ ClNO ₂ S	157	-	4.0	19.7 ^b
taurine	C ₂ H ₇ NO ₂ S	125	4.8	-	-
III. peptides					
			(M + H) ⁺	(M - H) ⁻	(M - COOH) ⁺
glycylglycine	C ₄ H ₈ N ₂ O ₃	132	41.6	4.8	-
glycylglycylglycine	C ₅ H ₁₀ N ₃ O ₄	189	4.0	0.4	2.0
glycylleucine	C ₆ H ₁₂ N ₂ O ₃	188	1.6	4.2	3.0
phenylalanylglycine	C ₁₁ H ₁₄ N ₂ O ₃	222	8.0	1.6	-
IV. drugs					
			(M + H) ⁺	(M - H) ⁻	(M - OH) ⁺
barbital	C ₈ H ₁₀ N ₂ O ₃	184	-	44.0	-
ephedrine	C ₁₀ H ₁₅ NO	165	16.0	-	40.0
atropine	C ₁₇ H ₂₃ NO	289	84.8 ^c	-	-
epinephrine	C ₉ H ₁₃ NO	183	-	6.4	-
V. vitamins					
			(M + H) ⁺	(M - H) ⁻	
ascorbic acid (C)	C ₆ H ₈ O ₆	176	3.7	17.6	
biotin (H)	C ₁₀ H ₁₆ N ₂ O ₆ S	244	0.3	4.2	
nicotinic acid (PP)	C ₆ H ₅ NO ₂	123	-	46.4	
nicotinamide	C ₆ H ₆ N ₂ O	122	2.1	15.2 ^d	
VI. sulfonamides					
			(M + H) ⁺	(M - H) ⁻	
sulfanilic acid	C ₆ H ₇ NO ₂ S	173	-	16.3	
sulfanilamide	C ₆ H ₈ N ₂ O ₂ S	172	0.6	17.6	
sulfacetamide	C ₈ H ₁₀ N ₂ O ₂ S	214	-	20.8	
VII. other compounds					
			(M + H) ⁺	(M - H) ⁻	
thymidine	C ₁₀ H ₁₄ N ₂ O ₅	242	1.9	1.3	
acriflavine	C ₁₈ H ₁₄ ClN ₂	259	-	-	96.0 ^e
creatine	C ₄ H ₇ N ₃ O ₂	131	2.9	-	3.4 ^f
creatinine	C ₄ H ₇ N ₃ O	113	16.0	6.0	6.0 ^g

^a M' = mass of related amino acid. ^b Identical with (M' + H)⁺. ^c M⁺. ^d M⁻. ^e (M - Cl)⁺. ^f (M + H - H₂O)⁺. ^g (M + H + H₂O)⁺.

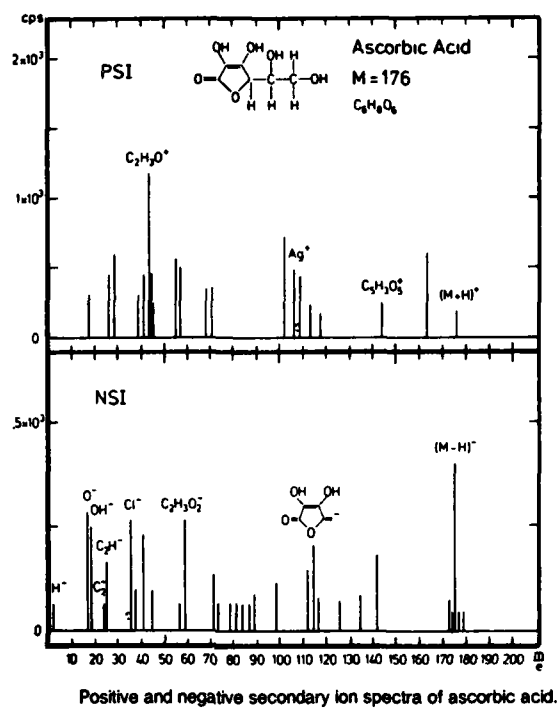


Figure 11. SIMS Data from Ascorbic Acid (Reference 28)

SECTION V

SECONDARY ION YIELD

Unknown or rapidly changing secondary ion yields are the major problem confronting the SIMS technique. Factors influencing secondary ion yield are the complex electronic and chemical properties of the surface along with certain characteristics of the matrix, and the concentration of the active species. The absolute secondary ion yields for certain elements, such as aluminum, chromium, and vanadium may change by as much as a factor of 10^3 from a clean metal condition to a fully oxidized surface (Reference 20). In addition, according to McHugh (Reference 9), the relative ion yields for different elements in the same matrix can exceed 10^4 , and in single crystals the secondary ion yield can vary with crystal orientation. Ion channeling phenomenon in single crystals can also complicate this situation. Ion yield can vary greatly with the impinging ion. Of course, it has been shown that sputtering yield of ions and neutrals is dependent on the mass and the energy of the primary ion beam. Evidence of this is shown in Figure 12 from the work of Winters (Reference 8), where the sputtering yield for copper is calculated and compared with experimental data for neon on copper, argon on copper, and xenon on copper. The increase in sputtering yield is seen with an increase in mass of the primary ion. There is also a very large influence on the sputtering yield with the angle of incidence, as shown in Figure 13, for argon ions on polycrystalline copper (Reference 8). Yields are also greatly influenced by the reactivity of gas making up the primary ion beam. This is shown in Figure 14 (Socha, Figure 7) where the yield of Al^+ is shown as a function of time using argon and oxygen. In the case of argon, there is a very fast rising spike in the yield which corresponds to the natural oxide on aluminum. The yield drops off rapidly as the natural oxide film is removed. Bombardment with oxygen, on the other hand, shows the same rapid rise, and then reaches an equilibrium sputtering rate which continues because of the reactivity of the oxygen ion beam. This method of increasing ion yields has been used by sputtering with noble gas ions onto a surface in which a very small jet of oxygen or other reactive gas is directed. This allows the

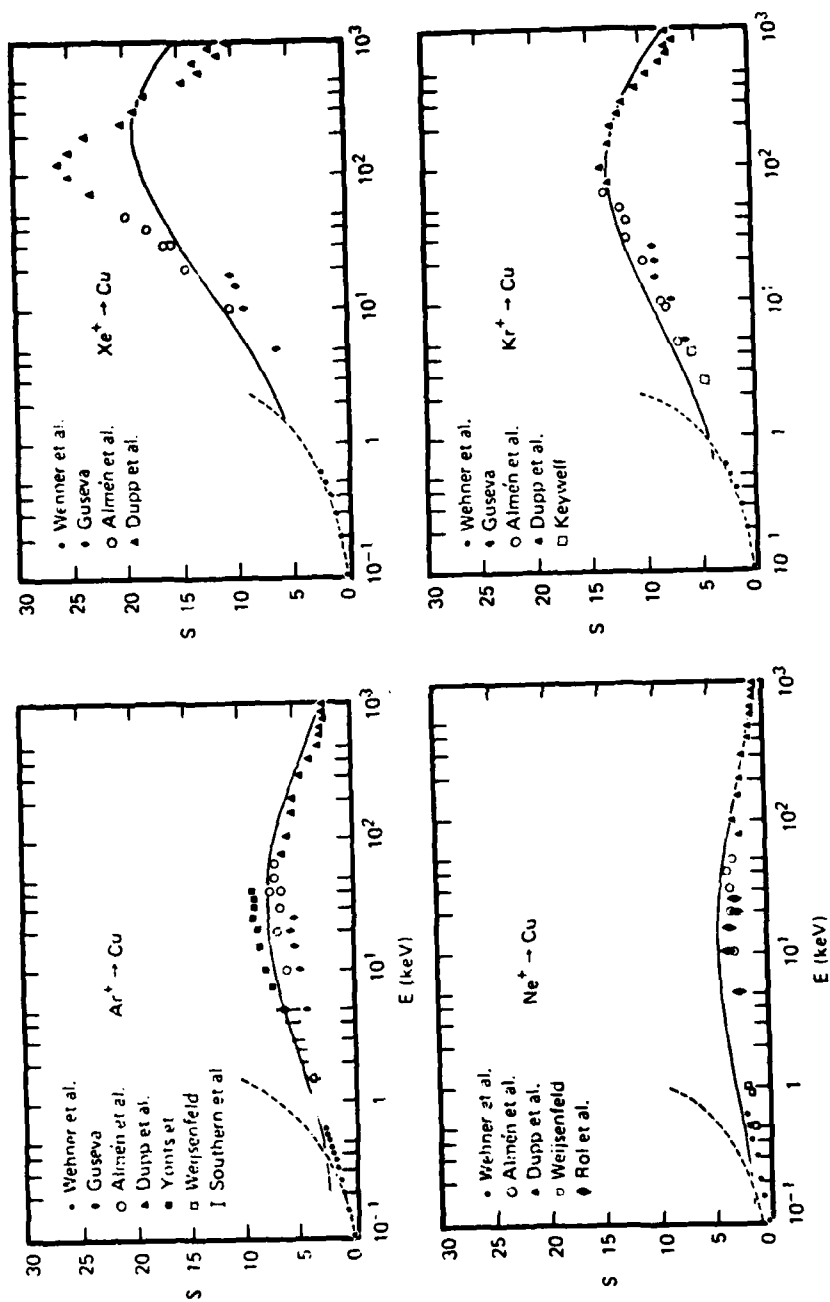


Figure 12. Sputtering Yields for Copper (Reference 8)

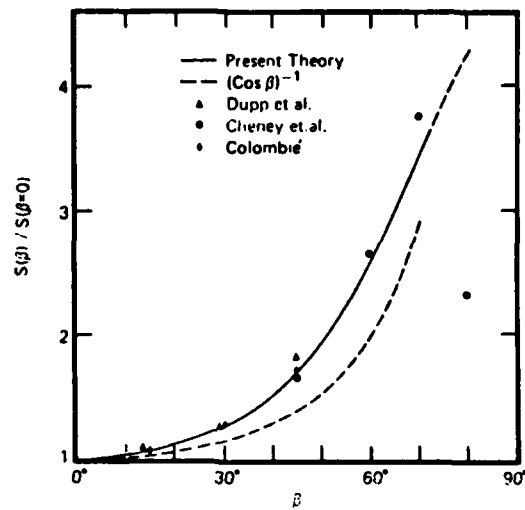


Figure 13. Variation of Sputtering Yield with Angle of Incidence for Ar^+ Ions on Polycrystalline Copper

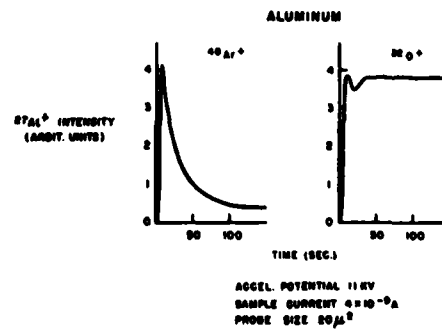


Figure 14. Al^+ Yield Using Argon and Oxygen Ions (Reference 13)

use of noble gas ion sputtering for which the sputtering rates are well known and yet has the advantage of keeping sputtering rates constant. One must remember either when sputtering with reactive gases or when adding a reactive gas to increase the yield that the surface chemistry is being changed, and that the true surface characterization of the original surface is not being obtained. However, for certain purposes such as producing sharp in-depth profile analysis which are not subject to yield changes, such a technique must be employed. Many authors have shown tables of data in which the secondary ion yield of positive and negative species and of clean metals and pure oxides have been determined. Such data is seen in Tables 4 and 5. Generally, these tables give approximate values but the yields are so dependent on aspects such as the partial pressure of reactive and unreactive gases in a system that probably standards must be run in a particular system to obtain even secondary standard samples. Yield data for Ar^+ and Xe^+ at higher voltage (8 KV) are shown in Table 6 (Reference 13). Despite the fact that absolute values of ion yield may not be the same as measured in another system, it is extremely useful to have even semi-quantitative data available. Numerous measurements have been made on the yield of both clean and oxide covered surfaces. Yields have also been measured with both noble gas and reactive gas sputtering. In the earlier and following tables, yields for both clean and oxide covered surfaces for both positive and negative species are shown taken primarily from the work of Werner (Reference 7) and of Benninghoven (Reference 6). In addition, measurement of Benninghoven (Reference 27) on the yields of the secondary ions of the species MeO_n^+ is given for 15 oxidized elements. Also, calculated values are shown of the lowest detectable concentration for several elements assuming a primary ion beam current of 10^{-8} ampere. The energy dependence of the secondary ion yield is seen in Figure 15 from work of Wittmaack (Reference 3). Calculations by Werner (Reference 7) show the relation between ion current erosion rate, thickness of the removed layer, and the minimum detectable limit in Table 10.

TABLE 4

RELATIVE YIELDS OF SOME ELEMENTS FOR THE FORMATION OF NEGATIVE IONS, S_{rel}^- , OF POSITIVE IONS, S_{rel}^+ , AND THE RATIO S_{rel}^-/S_{rel}^+ (REFERENCE 29)

	Al	Fe	Ge	Zr	Cu	Pt	Ag	Pb	Au
S_{rel}^-	4.4	□	12	1	6.6	1.4	2.4	0.2	7.4
S_{rel}^+	15.4	□	0.9	0.6	0.35	0.13	0.05 (0.5)	0.04	0.02
S_{rel}^-/S_{rel}^+	0.29	□	13.3	1.6	19	10	4.8 (48)	5.5	370

* reference element: Iron

TABLE 5

POSITIVE ION YIELDS FOR CLEAN METAL AND OXIDE SURFACE (REFERENCE 7)

ELEMENT	S°_{clean}	α^+	S°_{oxide}	α^+	$S^{\circ}_{oxide}/S^{\circ}_{clean}$
Mg	8.5×10^{-3}	4×10^{-3}	1.6×10^{-1}	8×10^{-2}	20
Al	2×10^{-2}	1×10^{-2}	2	1	100
V	1.3×10^{-3}	7×10^{-4}	1.2	6×10^{-1}	10^3
Cr	5×10^{-3}	3×10^{-3}	1.2	6×10^{-1}	200
Fe	1×10^{-3}	5×10^{-4}	3.8×10^{-1}	2×10^{-1}	380
Ni	3×10^{-3}	2×10^{-4}	2×10^{-2}	1×10^{-2}	7
Cu	1.3×10^{-4}	7×10^{-5}	4.5×10^{-3}	2×10^{-3}	30
Sr	2×10^{-4}	1×10^{-4}	1.3×10^{-1}	7×10^{-2}	700

TABLE 6

ION YIELDS FOR SOME PURE ELEMENTS OBTAINED BY USING
XENON AND ARGON PRIMARY IONS (REFERENCE 13)

	8 kV Xe	8 kV Ar
Mg	20.9	107
Al	7.2	790
Fe	4.2	22.6
Co	1.5	3.2
Ni	1.68	1.8
Cu	0.79	2.4
Zn	0.95	3.2
Zr	0.56	3.0
Nb	0.09	3.7
Ag	0.01	0.94
Cd	0.38	0.11
In	1.67	5.0
Sn	0.72	
Ta	1	1
Au	0.006	0.008
Pb	3.0	4.2

SOCHA

TABLE 7

ABSOLUTE SECONDARY ION YIELDS $S(\text{Me}^+)$ FOR CLEAN AND OXYGEN COVERED SURFACES
(REFERENCE 7)

Metal	$S(\text{Me}^+)$ Clean surface	$S(\text{Me}^+)$ oxygen covered surface
Mg	0.01	0.9
Al	0.007	0.7
Ti	0.0013	0.4
V	0.001	0.3
Cr	0.0012	1.2
Mn	0.0006	0.3
Fe	0.0015	0.35
Ni	0.0006	0.045
Cu	0.0003	0.007
Sr	0.0002	0.16
Nb	0.0006	0.05
Mo	0.00065	0.4
Ba	0.0002	0.03
Ta	0.00007	0.02
W	0.00009	0.035
Si	0.0084	0.58
Ge	0.0044	0.02

TABLE 8
YIELDS OF THE OXIDE-SPECIFIC SECONDARY IONS MeO_n^+ FOR 15 OXIDIZED METAL SURFACES (REFERENCE 27)

Metal	Ref.	Me^+	MeO^+	MeO_2^+	MeO^-	MeO_2^-	MeO_3^-	MeO_4^-
Mg	[24]	9.0×10^{-1}	1.5×10^{-3}	(a)	1.0×10^{-2}	2.5×10^{-3}	(a)	(a)
Al	[17,27]	7.0×10^{-1}	6.0×10^{-4}	(a)	2.0×10^{-2}	2.0×10^{-2}	(a)	(a)
Ti	[25]	4.0×10^{-1}	5.6×10^{-1}	7.0×10^{-3}	(a)	8.0×10^{-3}	1.8×10^{-2}	(a)
V	[21]	3.0×10^{-1}	6.0×10^{-1}	1.0×10^{-2}	1.0×10^{-4}	2.0×10^{-2}	1.0×10^{-2}	1.0×10^{-4}
Cr	[19,20]	1.2×10^0	2.0×10^{-1}	2.5×10^{-3}	2.5×10^{-4}	1.8×10^{-2}	7.0×10^{-2}	6.0×10^{-3}
Mn	[27]	3.0×10^{-1}	7.0×10^{-3}	(a)	4.0×10^{-3}	3.0×10^{-2}	4.0×10^{-3}	(a)
Fe	[18,26]	3.5×10^{-1}	1.4×10^{-2}	(a)	7.0×10^{-4}	8.5×10^{-3}	3.5×10^{-3}	(a)
Ni	[25]	4.5×10^{-2}	(a)	(a)	7.0×10^{-3}	6.0×10^{-2}	(a)	(a)
Cu	[25]	7.0×10^{-3}	(a)	(a)	1.5×10^{-3}	1.5×10^{-2}	(a)	(a)
Sr	[24]	1.6×10^{-1}	3.5×10^{-2}	(a)	1.3×10^{-2}	6.0×10^{-3}	(a)	(a)
Nb	[21]	5.0×10^{-2}	3.0×10^{-1}	6.0×10^{-2}	(a)	8.0×10^{-4}	2.0×10^{-2}	(a)
Mo	[27]	4.0×10^{-1}	3.0×10^{-1}	1.7×10^{-2}	(a)	1.4×10^{-3}	8.5×10^{-2}	1.4×10^{-2}
Ba	[24]	3.0×10^{-2}	1.7×10^{-2}	(a)	9.0×10^{-4}	7.0×10^{-3}	(a)	(a)
Ta	[21]	2.0×10^{-3}	2.0×10^{-2}	5.0×10^{-3}	(a)	1.0×10^{-3}	8.0×10^{-3}	2.0×10^{-4}
W	[22,23,27]	3.5×10^{-2}	1.5×10^{-1}	1.2×10^{-2}	(a)	1.2×10^{-3}	1.3×10^{-1}	1.0×10^{-2}

^a Yield does not reach the experimental detection limit of 5×10^{-5}

TABLE 9

CALCULATED VALUES OF THE LOWEST DETECTABLE
CONCENTRATION FOR SOME ELEMENTS (REFERENCE 7)

Elements	S^+	$C_{\min}$ (ppma)
Cu	1.3×10^{-4}	150
Ni	3×10^{-3}	7
Al	2×10^{-2}	1
Oxides	S^+	$C_{\min}$ (ppma)
Cu	4.5×10^{-3}	5
Ni	2×10^{-2}	1
Al	2	0.01

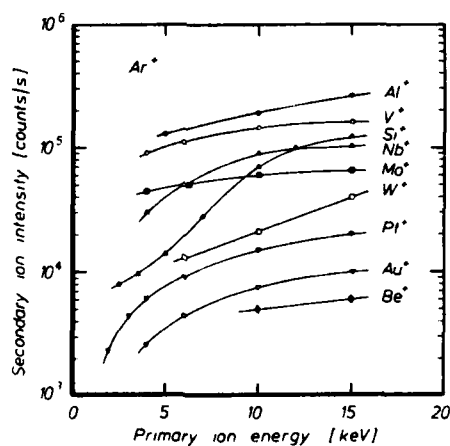


Figure 15. Secondary Ion Intensity Y^+ versus Primary Ion Energy
(Normalized to a Beam Current of $1\mu A$) (Reference 30)

TABLE 10

RELATION BETWEEN PRIMARY ION CURRENT, EROSION RATE, THICKNESS OF REMOVED LAYER AND MINIMUM DETECTABLE CONCENTRATION (REFERENCE 7)

$$C_{\min} \sim 1/(zA_b)$$

Primary Ion i_p (A)	Erosion Rate z (A s ⁻¹)	Thickness of Removed Layer in $t_a = 200$ s	c_{min} (ppma)
10^{-8}	2	400 Å	10
10^{-7}	20	4000 Å	1
10^{-6}	200	4 μm	0.1
Bombarded area $A_b: 100 \mu m$ (10^{-4} cm^2)			
Concl. simultaneous multi-element detection } $\rightarrow$ { Photoplate or multi-collector (electr detection) } Statistical fluctuations $\sim (\text{sputtered volume})^{-1}$			

In the SIMS technique using the ion microprobe large amounts of material are sputtered away. In SIMS experiments with standard commercial UHV instruments, less material is sputtered but still there is a good deal of disturbance of the surface. However, if we want to investigate a surface reaction on a solid without any disturbance of the reaction itself by the ion bombardment, we must choose a lifetime of the monolayer surface which is long compared with the time of ion bombardment. Therefore, the primary ion current density has to be lower and in order to compensate for this we have to bombard a large area. This technique in which the average lifetime of a single monolayer is in the order of hours, is called the static method of secondary ion mass spectroscopy (SSIMS). Benninghoven (Reference 6) reports that the detection limit of a given component in a single monolayer is between 10 and 0.01 parts per million of one monolayer.

Most SIMS instruments using quadrupole mass analyzers have at least one mass unit resolution up to mass 300 or so. This resolution is adequate for many purposes; however, if it is required to resolve some analytical ions from interfering polyatomic ions, then much higher resolution is required as shown in Table 11. (Werner (Reference 7) from unpublished data of Evans.)

TABLE 11
TYPES OF INTERFERENCES AND TYPICAL EXAMPLES (REFERENCE 7)

Interference type	Interfering ion	Analyt. ion	Required resolution
Multiply charged matrix ion	$^{28}\text{Si}^{2+}$	$^{14}\text{N}^+$	950
	$^{62}\text{Ni}^{2+}$	$^{31}\text{P}^+$	3200
Matrix selfpolymers ions	$^{16}\text{O}_2^+$	$^{32}\text{S}^+$	1800
	$^{28}\text{Si}_2^+$	$^{56}\text{Fe}^+$	2950
Prim. ion-matrix molecular ions	Cu_2O^+	$^{207}\text{Pb}^+$	1050
	Si_2O^+	$^{75}\text{As}^+$	3250
	AlO_2^+	$^{59}\text{Co}^+$	1500
Hydride ions	$^{30}\text{SiH}^+$	$^{31}\text{P}^+$	4000
	FeH^+	$^{55}\text{Mn}^+$	3300
	SnH^+	$^{121}\text{Sb}^+$	19500
Hydrocarbon ions	C_2H_4^+	$^{27}\text{Al}^+$	650
	C_2H_3^+	$^{63}\text{Cu}^+$	650
	C_2H_2^+	CN^+	2000

SECTION VI

ELEMENTAL PROFILING

In-depth elemental profiling has the ability to sputter the surface and maintain a constant monitor of the composition with depth. Such in-depth profiling may also be accomplished by ISS, AES, and PES using sputtering techniques and with other techniques such as Rutherford backscattering in which sputtering methods are not used. In addition to the use of SIMS for elemental depth profiling going into the air solid interface that method is also extremely useful for profiling through solid-solid interfaces which may be far below the surface. A great improvement in elemental depth profiling using SIMS is obtained when the ion beam is rastered generally into a square pattern and the signal is only accepted over a portion of the flat bottomed crater. This raster gate technique is diagrammatically shown in Figure 16 from work of Magee et al (Reference 16). Another method of profiling with depth is to use a high intensity static beam to sputter a deep crater into a material. Then the beam is focused to a smaller size and the beam moved across the edge of the crater or the sample moved under the beam. This method allows for numerous repeat measurements of different areas around the crater, as compared to the finite length of time possible during dynamic sputtering and monitoring of a given element.

The ideal true profile is rectangular shaped with the measured profile represented by an integrated error function. The interface with Δt (in terms of sputtering time t) or Δz (in terms of depth z) is arbitrarily defined as the interval where the density drops from 84% to 16% of maximum signal, equivalent to two standard deviations (two sigma of the error curve). Alternative definitions found in the literature are based on the 90%/10% or the 95%/5% interval corresponding with 2.56 sigma or 3.29 sigma, respectively. In depth profiling, the desired quantity is concentration which is a function of depth z and must be derived from the measured intensity. Honig and Magee (Reference 23) point out that there are numerous factors which contribute to an increasing width of the interface (Reference 23), when profiling with ions. They

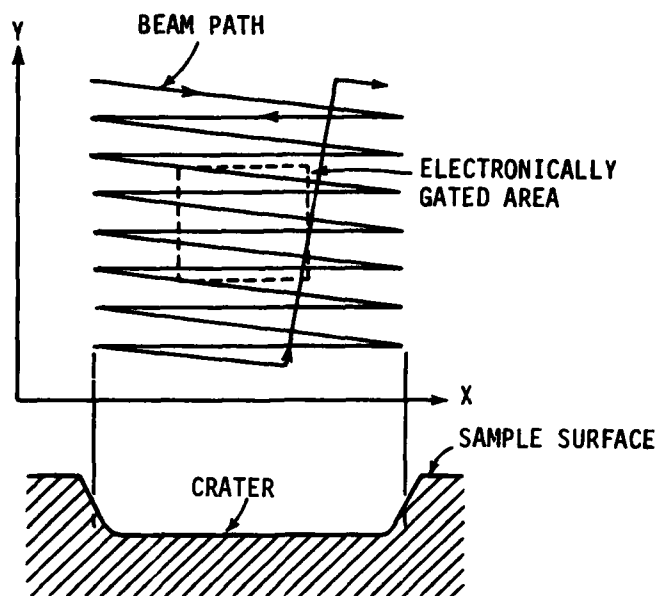


Figure 16. Raster/Gating Technique for Elemental Profiling (Reference 23)

list the following factors which influence the interface with the greatest degree: 1) Instrumental (inhomogeneities and fluctuating primary beam and so forth), 2) Initial Surface Roughness (imperfection, crystal orientation and so forth), 3) Information Depth, 4) Ion Mixing Effect and Lattice Damage, 5) Basic Sputtering Process (statistical considerations), 6) Preferential Sputtering (surface enrichment), 7) Atomic Migration, and 8) Chemical Reaction. An example of one broadening source is shown in Figure 20, where the AES depth profile of nickel and chromium in a multilayer sandwich structure is shown from a smooth surface and from a rough surface. The interfacial broadening of the rough surface is seen in The AES depth profile in Figure 20.

A serious problem encountered in SIMS analysis is that of specimen charging. Impact of energetic positive ions causes development of a positive charge on the surface of the insulator. This charge will influence or even prevent the emission of secondary ions. To overcome this charging of insulators there have been numerous methods used, as seen in Table 12. Some of these have significant limitations or

TABLE 12

METHODS OF CHARGE NEUTRALIZATION (REFERENCE 7)

- (1) Deposition of a conducting thin film or of a grid.
- (2) Use of Cs^+ as primary ions, in this way a conducting layer is continuously built up by the primary ion bombardment.
- (3) Compensation of the charging by means of an extra electron beam.
- (4) Use of neutral beams: the charging is reduced from the case of positive primary ions, see equation (8), to:
 $\Delta V_n = r i_s$ as the neutral beam does not bring any charge to the surface.
- (5) Application of special electrodes for draining excessive negative charge.
- (6) Shift of target holder potential V_H by ΔV in a direction opposite to the previous charging of the insulator.

contaminate the surface by coating a conductor on the surface of the insulator. In the mechanism of the charging of the insulator surface the impact of the positive ions cause secondary electron emission and consequently positive charge buildup. The obvious way of removing this charge is then to flood the surface with a beam of low energy electrons restoring charge neutrality. This method of charge compensation by electron bombardment is shown from work of Muller (Reference 22) in Figure 17. Muller's method has the advantage that deflecting the electron beam means that the surface of the sample cannot see the hot electron source and therefore cannot be contaminated by material boiled from the electron source. Since there is no direct line of sight, there is little heating caused by electrons from the filament. An example of SIMS spectra in the high mass range from an insulator when using the charge compensation method of Muller, is seen in Figure 18. Here strong, sharp symmetrical peaks are observed well out into the mass 300 range from the polymer Teflon.

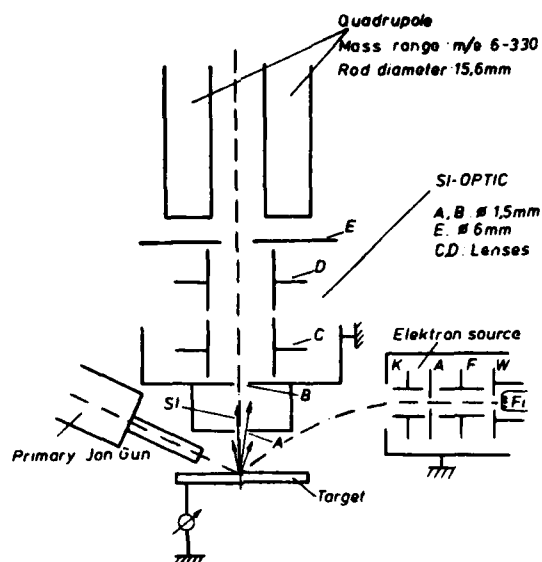


Figure 17. Charge Compensation in a SIMS Instrument (Reference 22)

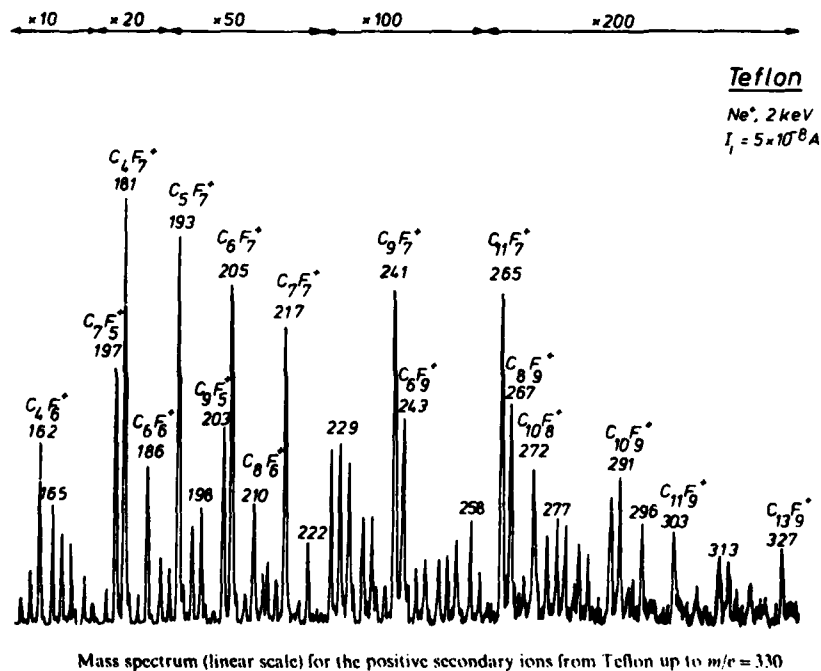


Figure 18. SIMS Spectrum in Mass Range 160-330 from Teflon Using Charge Neutralization (Reference 22)

The quality of the depth profile (called the depth resolution) is best described in terms of the measured width of an interface between two layers, and is represented in Figure 19. Major limitations, as seen by Honig and Magee (Reference 23), of depth profiling along with their remedies for these limitations are shown in Table 13.

1. IMAGING

Secondary ion images that provide a two-dimensional elemental characterization of the surface can be produced either by the scanning microprobe method or by the direct ion imaging method. The method of the scanning microprobe is directly analogous to the methods used in the electron microprobe. In this case, a small ion beam is scanned across the surface and the secondary ions are recorded. The spot is rastered along the surface of the sample and synchronized with a cathode ray tube (CRT), such that an ion image may be developed on the CRT. Major components for an ion microprobe mass analyzer are shown in Figure 21. Another method of producing an image could more properly be called an ion microscope. This is an instrument which combines a mass spectrometer with an ion imaging microscope. The instrument forms a surface distribution map of the elements sputtered away from the surface of the specimen. An instrument of this type is seen in Figure 22. Here an electrostatic immersion lens is used to extract the secondary ion beam and to direct it to a special mass spectrometer which has both radial transverse focusing properties. The mass spectrometer portion separates the masses so that a given atomic mass may be selected. The ion beam passes through the magnetic field's electrostatic mirror which reflects the beam back through the magnet to the exit slits. The ion beam, however, is preserved as an ion image which is then projected on an image converter which produces an equivalent electron image. This image may be displayed on a fluorescent screen for direct viewing or photographed in the same manner as with an electron microscope. The screen may also be removed and direct electronic readout may be obtained using a scintillator system.

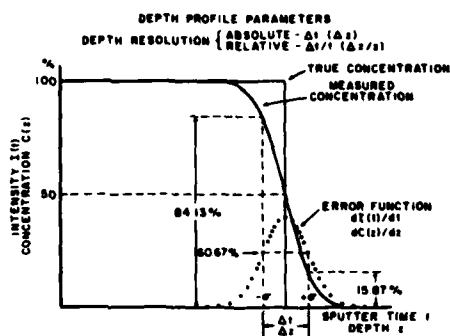


Figure 19. Depth Profile Parameters (Reference 23)

AES Depth Profiles Ni-Cr Multilayers

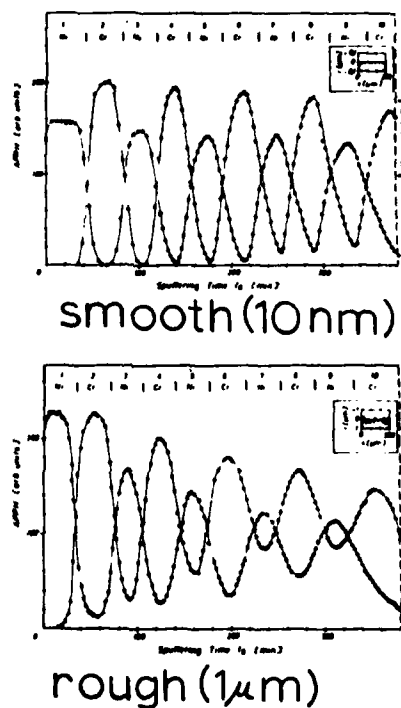


Figure 20. Influence of Roughness on Elemental Depth Profile Width and Resolution (Reference 23)

TABLE 13

LIMITATIONS AND REMEDIES IN DEPTH PROFILING (REFERENCE 23)

MAJOR LIMITATION	REMEDY
● CONVERTING SPUTTERING TIME t INTO DEPTH z ESPECIALLY AT INTERFACE ● CONVERTING MEASURED INTENSITY I INTO TRUE CONCENTRATION C ● MICROSTRUCTURE AND CONE FORMATION	● MATCH FILM TO SUBSTRATE (SIMILAR YIELDS Y, RATES $\dot{z}$) ● SIMS: OXYGEN-FREE SYSTEM, OR SATURATE WITH O_2 ● OPTICALLY FLAT SUBSTRATE ● AMORPHOUS LAYERS, IF POSSIBLE ● APPROPRIATE ION SPECIES (N_2^+ OR O_2^+) ● SIMS RATHER THAN AES OR XPS
● PREFERENTIAL SPUTTERING WITH SURFACE ENRICHMENT ● EXCESSIVE INFORMATION DEPTH ● LATTICE DAMAGE ● CHEMICAL EFFECTS (REDUCTION OF OXIDES)	● AES, XPS: CHOOSE LINE CLOSE TO MINIMUM ● SIMS: USE LOWEST FEASIBLE ION ENERGY ● XPS: USE MINIMUM ION ENERGY, MOST SUITABLE ION SPECIES
● MOBILE SPECIES IN INSULATING MATRIX (e.g. Na/SiO₂)	● CHARGE NEUTRALIZATION: BY SEPARATE ELECTRON BEAM OR ELECTRODE, OR CHOICE OF SAMPLE ANGLE

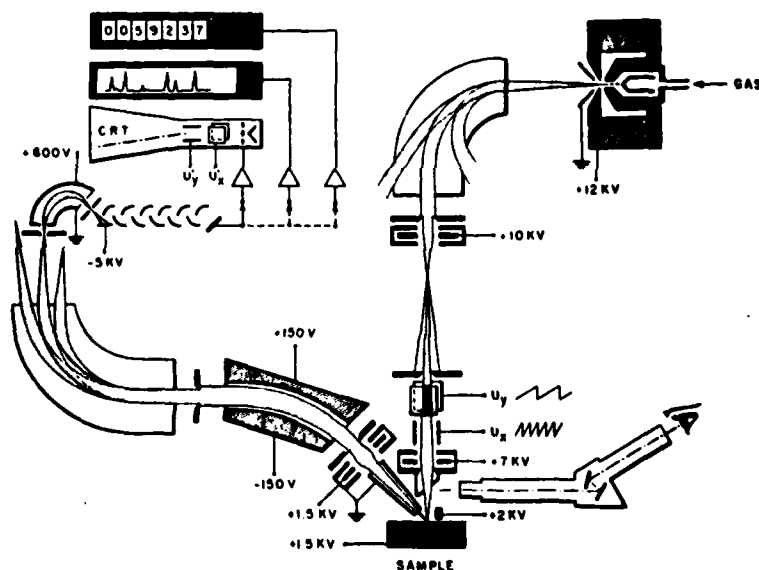


Figure 21. Components of an Ion Microprobe

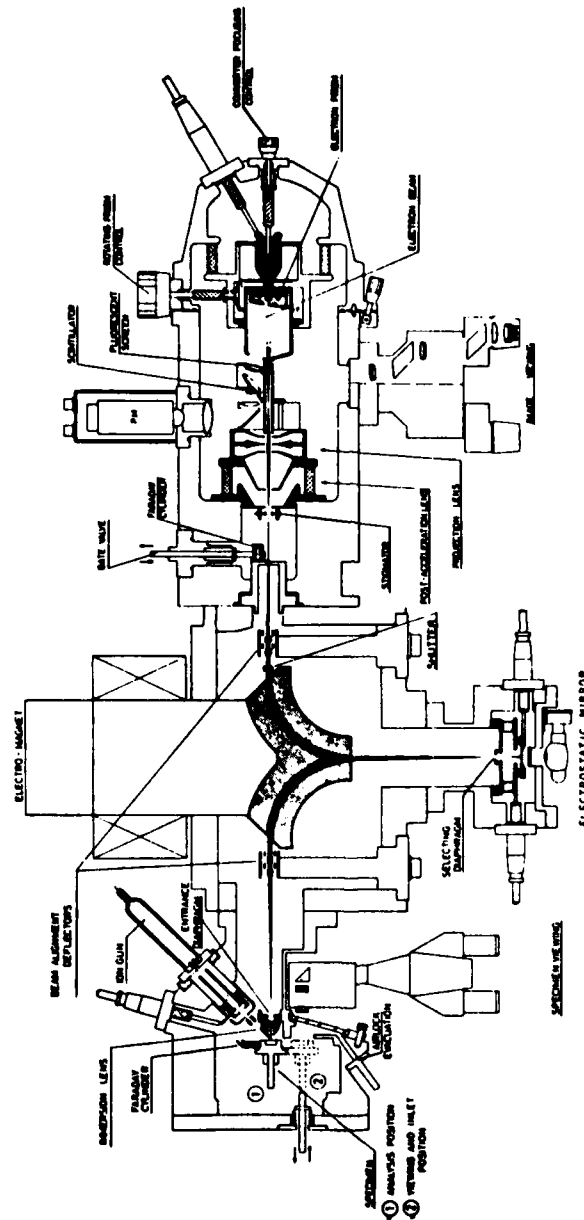


Figure 22. Stodizian-Castaing-Rouberol Ion Microanalyzer

An example of a typical ion image in this case prepared by the scanning ion microprobe is shown in Figure 23. Here the image of an aluminum grid pressed into gold (Reference 24) is shown using $^{27}\text{Al}^+$ ions. The picture shows an area 300 micrometers (Reference 2) and required two seconds to expose.

Another concept in imaging is shown in Figure 24 where the SIMS apparatus is coupled with a high resolution scanning electron microscope (Reference 25). Here a leak valve admits a suitable gas into the ion source region where ions are produced and accelerated at voltages up to 5 KeV. Lens assemblies permit focusing of the ion beam from less than 100 micrometers to a few millimeters diameter on the specimen surface. Deflection plates enable scanning of the ion beam for imaging or depth profile purposes. To prevent contamination from diffusion pump oils depositing on the specimen surface, a liquid nitrogen (LN_2) cold trap is used either surrounding the specimen or in the inlet to the diffusion pump. A gas capillary jet directed at the specimen surface may be used to reduce surface contamination from hydrocarbon pump oils. The use of oxygen in the capillary jet when a noble gas is used for sputtering also provides an active gas on the surface to maintain high and constant secondary ion yields.

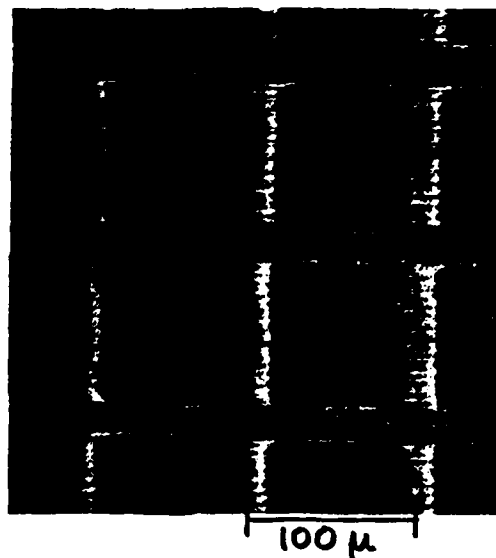
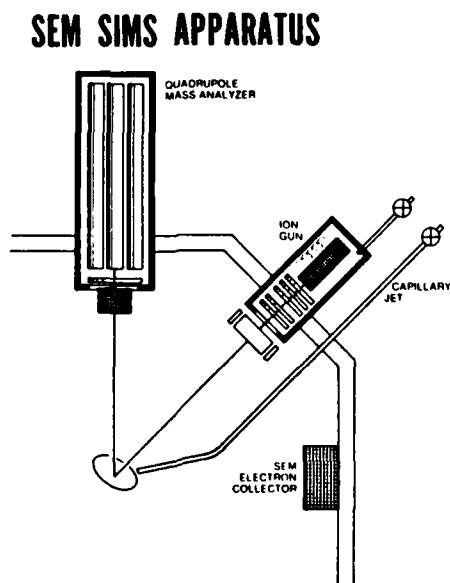


Figure 23. Scanning Ion Image of an Aluminum Grid on Gold



SCHEMATIC DIAGRAM OF SEM/SIMS APPARATUS

Figure 24. SIMS/SEM Combination (Reference 25)

SECTION VII

SIMS AS A COMPLEMENT TO OTHER METHODS OF SURFACE ANALYSIS

It is recognized that SIMS has been used successfully as a stand-alone technique to solve many surface problems. However, it appears that the area of greatest use of the SIMS technique is as a complement to other surface characterization methods. The extremely high sensitivity for some elements can be taken advantage of by using SIMS with other techniques in which these elements do not show such high sensitivity. The high sensitivity of SIMS for hydrogen and low atomic number elements is a particular advantage when SIMS is used with techniques such as ion scattering. Since ion scattering and each of the other surface characterization methods in which profiling data is obtained by erosion uses an ion beam, it is only natural to take advantage of this erosion by ions by analyzing these sputtered species. Figure 25 shows typical arrangements for complementary use of SIMS with ISS and AES. Even when the usual geometry cannot be used in an existing instrument, a little ingenuity in design can provide good SIMS results such as in the design of Figure 26. An area in which SIMS proves very valuable is to differentiate between nearby elements in which sufficient resolution is not obtained in the accompanying technique. Such an example was reported where the ion scattering spectrum of a foil lining screw cap showed only an unresolved peak which could have been either indium or tin. SIMS data on the other hand, showed unmistakably that a mixture of the two elements were present in the foil liner. Still another extremely useful area is a similar example as shown in Figure 27 where the titanium alloy Ti6Al4V has been treated with a commercial phosphate fluoride treatment and gives the ion scattering spectrum to the right of the figure. It can be seen that the surface is contaminated but it is not obvious whether the contaminated peak is calcium or potassium. The SIMS data to the left of the ISS spectra shows that primarily calcium is present on the surface and is responsible for the shoulder on the side of the titanium peak. Note also the vanadium at atomic mass No. 51 and the inability of ISS to differentiate between titanium and vanadium.

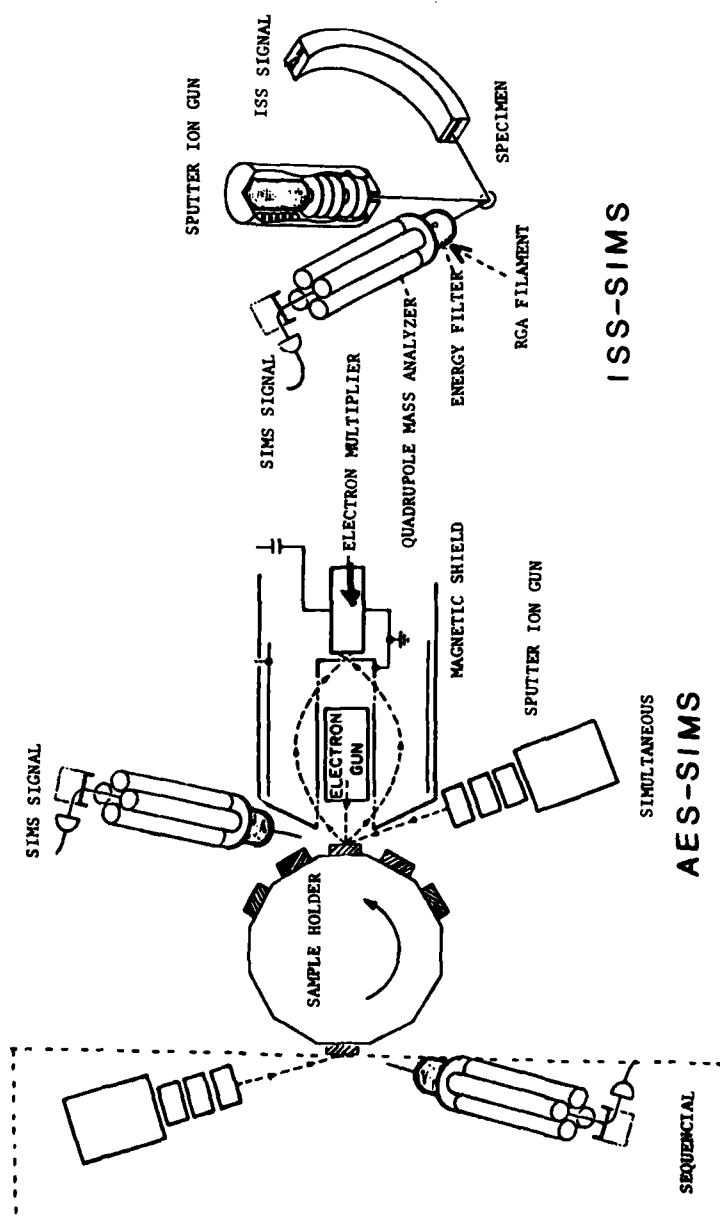


Figure 25. Complementary Use of SIMS with AES & ISS

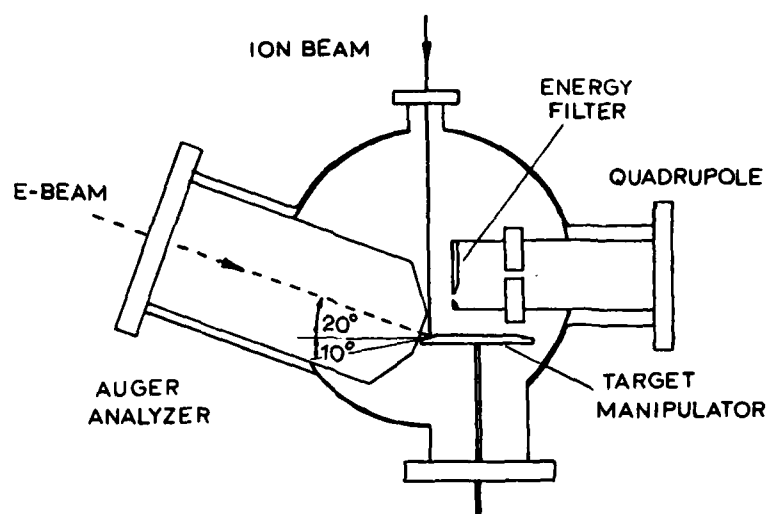


Figure 26. A Unique Design to Allow Simultaneous AES & SIMS

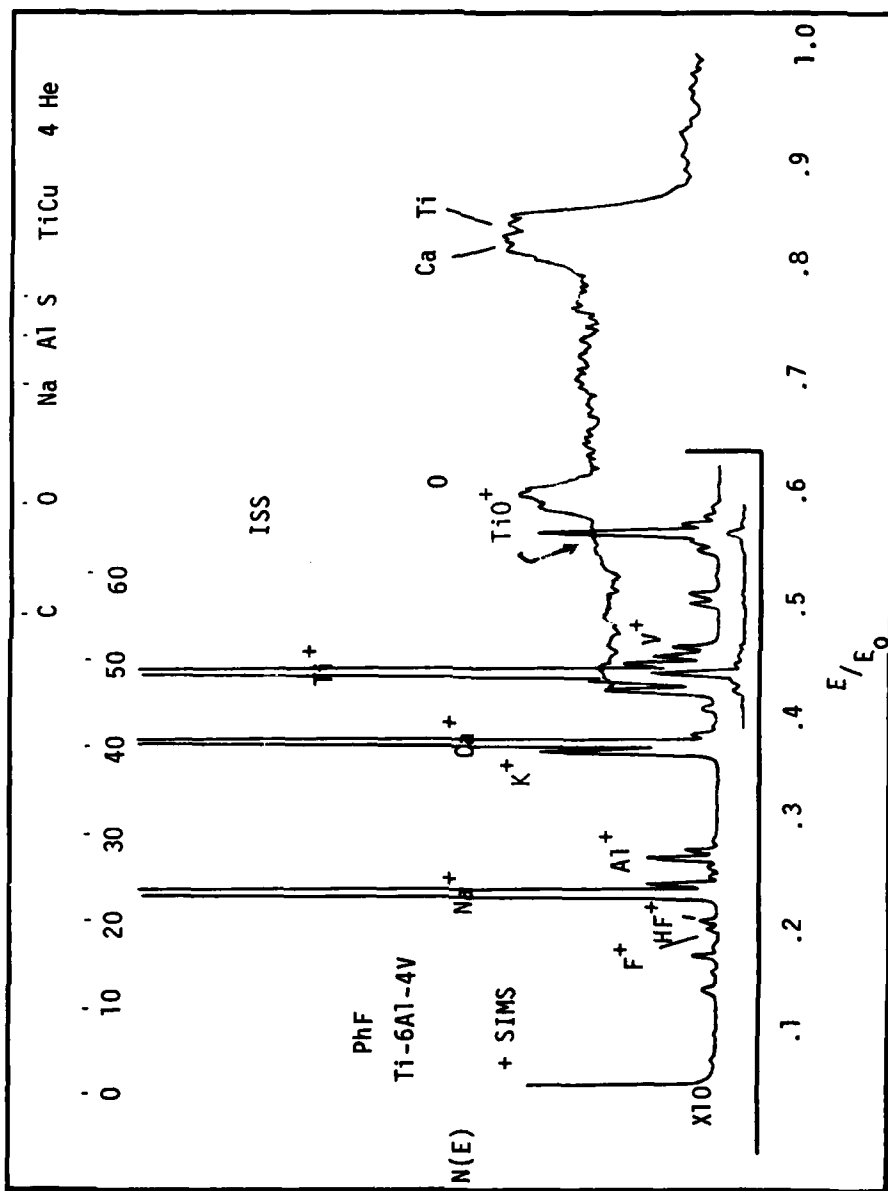


Figure 27. ISS/SIMS Data for Ti6Al4V Alloy Treated by the Phosphate Fluoride Method

The extremely high sensitivity for low atomic number elements such as beryllium was taken advantage of in the solidification behavior of a $\text{Be}_{40}\text{Ti}_{50}\text{Zr}_{10}$ glass. It was found in this study and illustrated in Figure 28 that an excess amount of beryllium was found on the surface of the as-cast material. The material was quenched rapidly on a copper plate and traces of copper on the alloy surface were found. Cluster spectra in the region of mass 25-30 also shows that the beryllium is probably in an oxidized state or exists as a hydroxide on the surface. Thus SIMS by inference gives somewhat more information than techniques giving only elemental characterization information. In addition to showing sensitivity for many low atomic number elements, the SIMS technique has high sensitivity for many high atomic number elements. An example of this is shown in Figure 29, where a small amount of lead (Pb) impurity is seen in uranium dioxide. This lead impurity was not observed or separated in any of the other elemental techniques.

Mass resolution of SIMS is clearly an aid to ISS when examining certain groups of elements having adjacent mass numbers which cannot be resolved by ISS. Figure 30 shows the ISS spectra of chemically cleaned aluminum and aluminum treated with a dilute sodium silicate solution. While the slight shift in the aluminum peak position suggests silicon, it is insufficient except for very questionable qualitative analysis. Figure 30 shows the SIMS spectra of the same samples. The ratio of silicon to aluminum in the outer layers of the silicate treated aluminum appears to be about three to one. Depth profile analyses showed the thickness of the silicate coating to be only a few monolayers.

Baun (Reference 32) showed a very similar example in a study of adhesive bonding surfaces on aluminum alloys. Even "as received" materials show surprising surface composition as seen in Figure 31 where SIMS and ISS data on 2024 aluminum alloy (degreased) indicate high magnesium concentration at the surface. Conventional alkaline cleaning treatments do not etch the surface appreciably, leaving the surface magnesium rich. Such a surface when adhesively bonded may exhibit long time durability anomalies when compared with bonded structures in which formation of aluminum oxide has been ensured. The same author

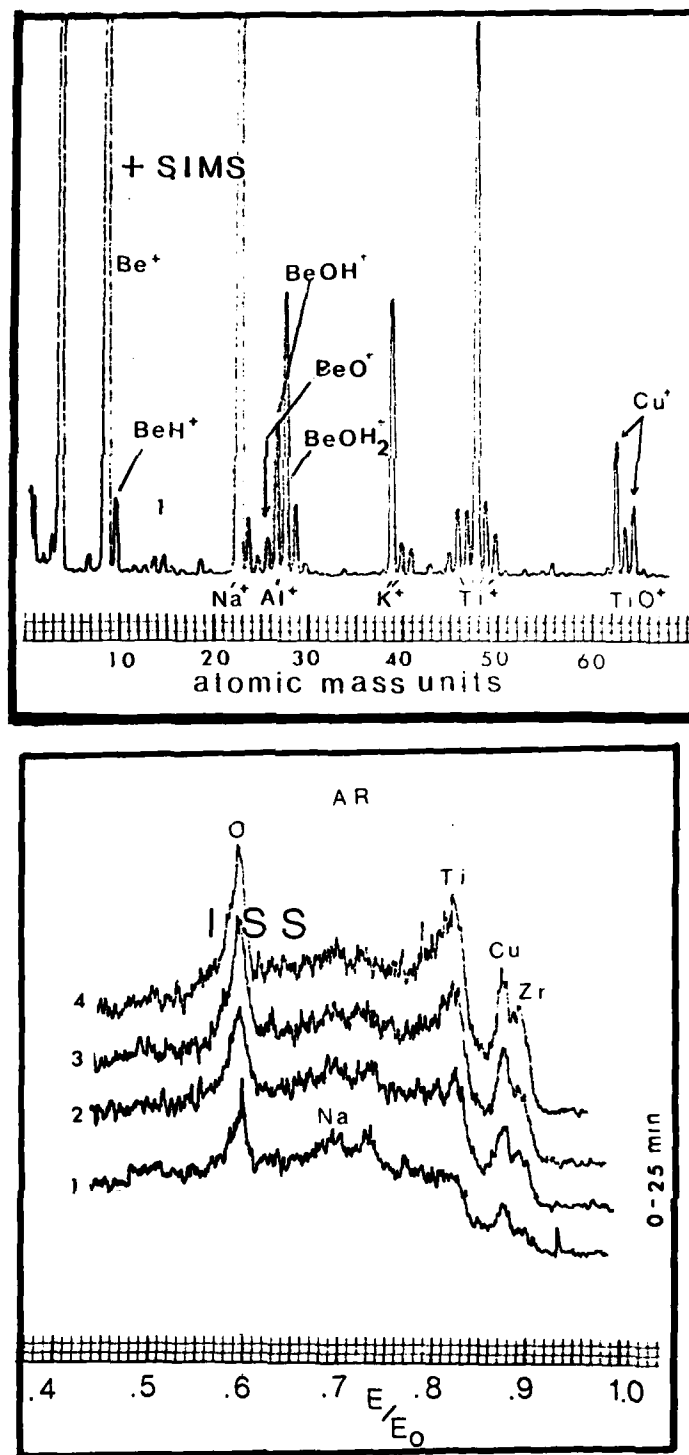


Figure 28. ISS/SIMS Data for a Rapidly Solidified $\text{Be}_{40}\text{Ti}_{50}\text{Zr}_{10}$ Sample Quenched on Copper

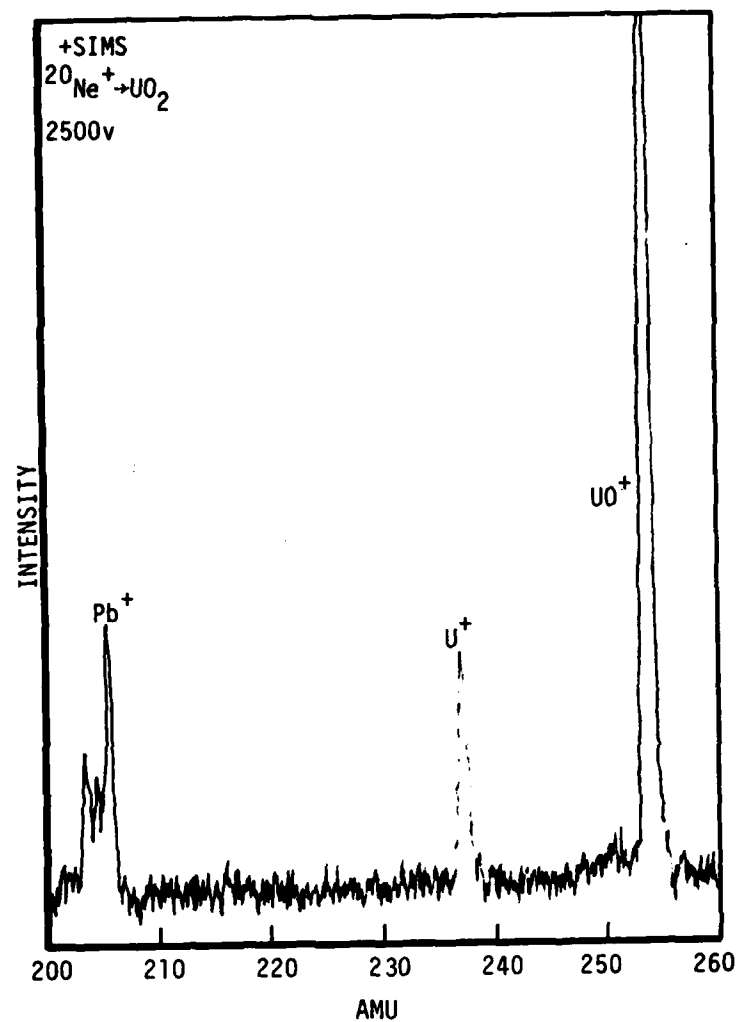


Figure 29. +SIMS Data for UO_2 Sample Showing Pb Impurity

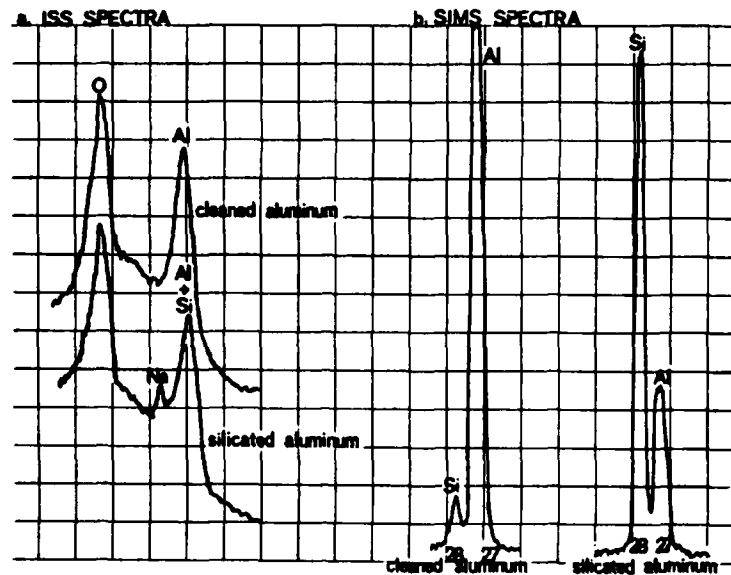


Figure 30. ISS/SIMS Data for Cleaned & Silicated Aluminum

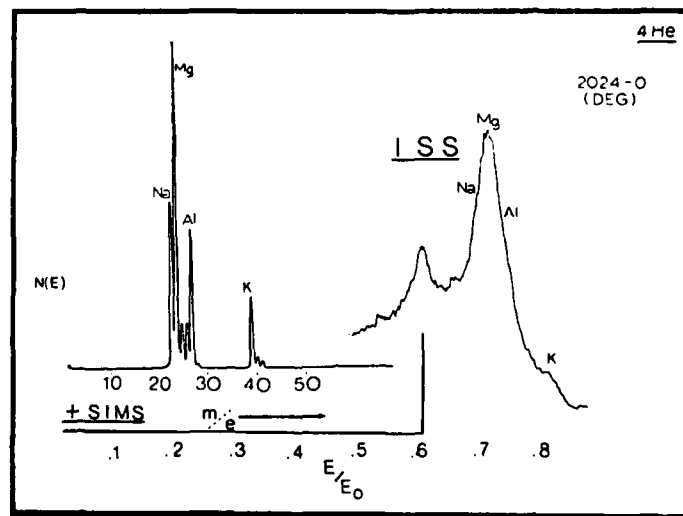


Figure 31. ISS & +SIMS Data from 2024 Aluminum Alloy.
No Treatment Except for Degreasing

(Reference 33) also showed that ion scattering spectrometry and secondary ion mass spectrometry provide useful information on the locus of failure in an adhesive joint even when the film is only on the order of atomic dimensions or when the failure occurs near the original interface and includes parts of both the adhesive and adherend. SIMS was a near necessity in providing analysis of neighboring elements with the required sensitivity for adhesive bonding research.

SECTION VIII

APPLICATIONS

Many of the papers which appear in the literature concern primarily the technique of using SIMS; however, as the method becomes better developed more and more applications will appear. In the accompanying bibliography many illustrations are seen in which the technique is used either by itself or as a complementary method to another surface characterization tool. For instance, it is used for the study of thin films (2H), the surface chemistry of stainless steels (3A), silicon oxygen interaction (3F), surface oxidation studies on iron (5D), and of copper beryllium surfaces (9F). The index to the bibliography provides a comprehensive list of applications of SIMS.

Sparrow (Reference 34) has shown numerous applications of SIMS such as depicted in Figure 32, spectra from three aluminum castings prepared for painting. Sparrow shows that in many cases, particularly castings, metal surfaces are physically abraded prior to deposition of paints, polymers or laminates. These techniques serve two distinct purposes: 1) they remove the undesirable, thick surface oxides and contaminants, and 2) they produce a modified surface texture more desirable for the finished surface. The normal automatic mechanical techniques used occasionally do not remove contaminants sufficiently. Figure 32 illustrates SIMS spectra from three cast Al devices analyzed prior to paint coating. Specimen C indicates the original Al as received contains substantially high levels of Na, Mg, Si, and Ca. Sample B was sanded mechanically but still exhibits unusually high levels of Si. Both Al surfaces B and C resulted in paint coatings which exhibited early peeling and corrosion during normal exposure to humid environments. Manual sanding prior to paint coating resulted in removal of most Si as illustrated in A and yielded a product with an extended lifetime under similar environmental conditions. Sporadic and variable performance could also be correlated with the normal variations in surface concentrations of these contaminants on the original casting as received. Sparrow (Reference 35) has also developed a relationship used to calculate SIMS relative sensitivities which has been found to be extremely

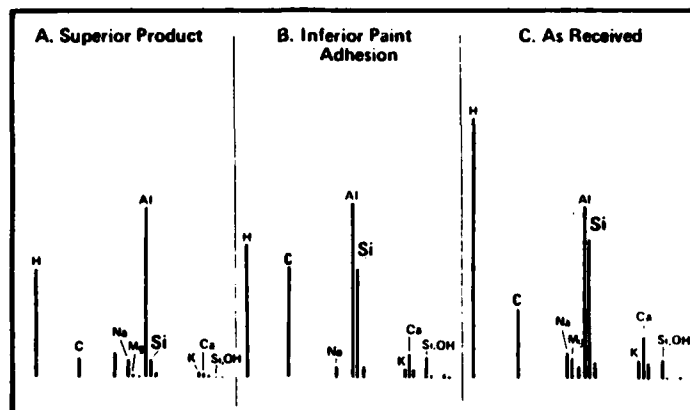


Figure 32. SIMS Spectra from Three Al Castings Showing Insufficient Removal of Contaminants Causing Reduced Weatherability of Paint Coating (Reference 34)

valuable for general use in providing reliable quantitative approximations for most materials. Further, more accurate relationships can be used for each specific problem; however, this relationship is reasonably accurate, simple, and convenient for general applications.

Several applications of this technique to catalysts have been made. Figure 33 illustrates results for one of these applications. Small Al_2O_3 beads approximately one millimeter in diameter homogeneously treated with Ni and Mo were analyzed to determine the cause of failures to rejuvenate spent catalyst. It is obvious that the spent catalyst is contaminated with Fe and low in Ni.

DiBenedetto and Scola (Reference 36) have used both ISS and SIMS to characterize surfaces of treated glass fibers and fiber/polymer interfaces. The results show how SIMS can be used to study the chemistry at the surface and chemical changes on the surface and at interfaces. By working at low power levels with insulator surfaces, the SIMS analysis showed changes in the structure of a polymerized silane coating as a function of depth of penetration into the interface. The concentration of nitrogen and hydrogen generated from the surface maintained a relatively constant level as the distance from the air-silane interface increased; then within 160Å into the surface, a dramatic increase in the

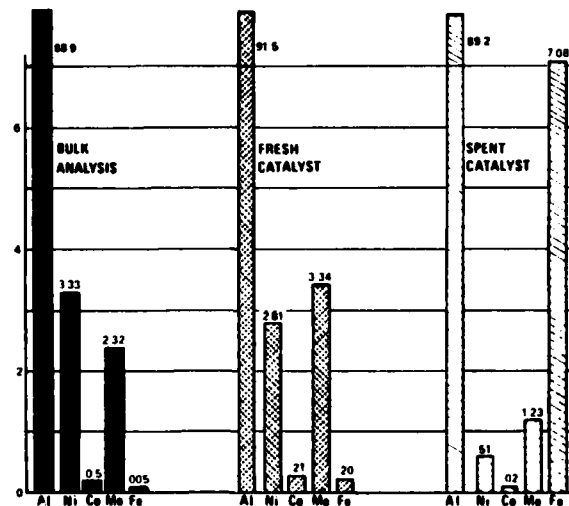


Figure 33. Quantitative Results Obtained from SIMS Analysis of Fresh & Spent Ni/Mo Catalysts (Reference 35)

nitrogen level was noted, to a depth of 240A. In this region, the simplicity of the SIMS spectra, with major peaks corresponding to the atomic constituents of γ -aminopropyltriethoxysilane, namely, H, C, N, O, and Si, suggested that low-molecular-weight oligomer was present in this region. This means that the silane coating was not sufficiently cured to provide a mechanically stable interface. Finally, from 240A to the silane-glass interface, the nitrogen and hydrogen generated from the surface reached a lower constant level but about three times higher than that generated from the air-silane domain. This suggests that the silane polymer coating adjacent to the glass interface is different from the silane polymer at the air interface. Thus, it is clear that the ISS/SIMS technique can be used to define the interface and interphase regions and also to follow changes at the interface due to a chemical reaction.

SECTION IX

SOURCES OF INFORMATION ON SIMS

SIMS is similar to many areas of research in that there is no one place in which much of the data is published. There is a relatively large bank of data, but it is scattered among many journals and periodicals. There are, of course, various abstracting services such as Chemical Abstracts, Physical Abstracts, and Science Abstracts. There are numerous reports and patent search services, both private and in the government sector. Several services may be subscribed to and include Current Contents (Institute for Scientific Information, Philadelphia, Pa) which reproduces the contents of current journals and other services such as Index to Scientific and Technical Proceedings. The Chemical Abstracts Service (POB 3012, Columbus, Ohio) also offers numerous services including the very useful "CA Selects," produced every two weeks by a computer search of Chemical Abstracts. "CA Selects" is based on a concept pioneered by United Kingdom Chemical Information Service. Several "CA Selects" topics are of interest to the surface analyst. A sample page from the title, Surface Chemistry (Physiochemical Aspects) is shown in Figure 34. The Mass Spectrometry Bulletin published monthly in the United Kingdom has, in Section 6, "Surface Phenomena and Solid State Studies." A sample column is shown in Figure 35 from Section 6.

Early SIMS bibliographic material to 1972 was published by Balzers Corporation and the 3M Company maintained a SIMS bibliography of more modern work. There have been numerous SIMS reviews as seen in the attached bibliography.

Appendix C is the compilation of early literature by Balzers. Appendix D is a computer search of recent (1972 - present) SIMS references.

88:181773q A comparison of a theoretical model and sensitivity factor calculations for quantification of SIMS data. Smith, David H.; Christie, W. H. (Anal. Chem. Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.). *Int. J. Mass Spectrom. Ion Phys.* 1978, 26(1), 61-76 (Eng). The theor. local thermal equil. model of C. Andersen and J. Hinthorne (1973) and the empirical method based on using av. relative sensitivity factors for detg. surface element concns. by secondary-ion mass spectroscopy were compared by using ~1000 data points obtained from 13 glass and 5 Fe stds. The results showed that, if a suitable set of sensitivity factors can be obtained, more accurate results were obtained through their use. Exptl. results were within a factor of 2 of the expected values 85% of the time when the sensitivity factor method was used, but were within that factor only 55% of the time when the theor. model was used. The advantages and disadvantages and exptl. considerations for each method were discussed in detail.

88:181857v The determination of adsorbed sodium, potassium, magnesium, and calcium on sediments containing calcium carbonate and magnesium carbonate. Neal, Colin (Inst. Hydrol., Wallingford, Engl.). *Clays Clay Miner.* 1977, 25(4), 253-8 (Eng). A method is described for the detn. of Na, K, Mg, and Ca cations adsorbed on clay minerals mixed with CaCO_3 and MgCO_3 . The exchangeable cations are displaced by using an ethanolic LiCl-CaCl soln. Blank detns. using either a second ethanolic leach or a second LiCl-CaCl leach are used to correct for carbonate dissoln. The method was tested by using mixts. of homoionic forms of smectite and kaolinite with either CaCO_3 or MgCO_3 . The smectite and kaolinite had total cation exchange capacities of 765 and 39.8 mequiv/kg, resp., and the amt. of cation exchanged varied directly with the proportion of clay mineral in the mixt. Tests with smectite- CaCO_3 mixts. in sea waters of various salinity vindicated the use of the method with heteroionic forms of smectite and suggested that the fixation effect reported in other studies of clay minerals in estuarine conditions may be an artifact.

88:181904h ESCA investigation of the oxide layers on some chromium containing alloys. Storp, S.; Holm, R. (Ing. Ber. Angew. Phys., Bayer A.-G., Leverkusen, Ger.). *Surf. Sci.* 1977, 68, 10-19 (Eng). Cr in oxide layers formed on Cr, stainless steel, and Vitallium, and Fe in oxide layers formed on Fe and a Fe-Si alloy were detd. by ESCA. The oxide layers were formed by heating in air and exposure to H_2O and HNO_3 solns. Cr-rich oxide layers were obtained after heating in air at $>400^\circ$ and after exposure to H_2O and HNO_3 . Fe(II) oxide was obtained in larger amts. on stainless steel than on the Fe and Fe-Si alloy samples. For samples contg. Mo and exposed to H_2O and HNO_3 , the Cr oxide/Mo(VI) oxide ratio was ~10:1; Mo(IV) was also present.

88:181915n Spark mass spectrometric method for analysis

of thin films and the surface layers of solids. Liebich, V.; Mai, H. (Cent. Inst. Hard Subst. Mater., Dresden, E. Ger.). *Probl. Fiz. Tverd. Tela Materialoved., Tr. Simp., Akad. Nauk SSSR GDR* 1976, 411-13 (Russ). Edited by Orlov, A. N.; Rozhanskii, V. N.; Kremenskaya, I. N. "Nauka": Moscow, USSR. Tech. modifications to the MS 7 mass spectrometer in order to reduce crater depths produced by spark discharges are briefly described. The shallower crater depths were preferred for anal. of thin films and solid surfaces. Crater depths of 0.04-0.13 μm on the surface of metal samples and of 0.02-1 μm on Cu layers on glass substrates were obtained. H. P. Maskova

88:181974f Low-energy ion scattering (LEIS) for composition and structure analysis of the outer surface. Brongersma, H. H.; Buck, T. M. (Philips Res. Lab., Eindhoven, Neth.). *Nucl. Instrum. Methods* 1978, 149(1-3), 569-75 (Eng). The energy distribution of low-energy ions (1-2 keV) scattered at some specific angle from a solid surface, can provide information on the mass, or identity, and the no. of surface atoms, through the energy position and magnitude, resp., of peaks in the spectrum. The sampling depth is restricted to 1-2 atom layers. For single-crystal targets, surface structure or atom location information can be derived from shadowing and multiple scattering effects. Applications to equil. surface segregation in alloys and the location of S atoms on the Ni (001) surface are shown as examples. The importance of inelastic effects is discussed.

88:182048u Use of poly(organo)silsequioxanes as sorbents in liquid chromatography. Ivanova, N. T.; Vasyukov, S. E.; Syavtallo, S. V.; Vialykh, N. A.; Demchenko, A. I.; Loskutnikova, G. G. (USSR). *Usp. Gazov. Khromatogr.* 1975, 4, Pt. 1, 211-16 (Russ). Synthesis of poly(methylsilsequioxane), poly(methylphenylsilsequioxane), and poly(vinylphenylsilsequioxane) by hydrolytic polycondensation of the corresponding chlorosilanes is described and the phys. properties (sp. surface, thermal stability) of the products are given. The sorbents can be used for liq. chromatog. of different types of compds. Retention data of some compds. contg. Cl and ether and amino groups are tabulated. H. Bulantova

88:182053e Porous polyaromatic beads. II. The use of brominated polymers in gas chromatography. Lindsay Smith, John R.; Tameesh, Adnan H. H.; Waddington, David J. (Dep. Chem., Univ. York, York, Engl.). *J. Chromatogr.* 1978, 148(2), 365-71 (Eng). Two com. available porous arom. polymer beads used for gas chromatog., Porapak Q and Chromosorb 102, were brominated. The resulting polymers are significantly more stable to heat and, when treated with Br in CCl_4 (with or without thallium(III) acetate), the materials become much more suitable for the sepn. of polar adsorbates such as alcs. and carboxylic acids. The retention times of the adsorbates depend on the method of bromination used.

Figure 34. Sample Page from CA Selects "Surface Chemistry" (Physiochemical Aspects)

SECTION 6
SURFACE PHENOMENA AND
SOLID STATE STUDIES

548 Sputtering of Fe(iii) crystal under Ar(+) and Kr(+) ion bombardment

Bhattacharya R.S., Basu D., Karmohapatro S.B.
Indian J. Phys. V.48 N.10 P.941-3 1975
Ion impact, Single crystal, Sputtering, Surface, Ar, Kr

549 Ion penetration

Brown F.
PR-CMa-32 AECL-5122 Atomic Energy of Canada Ltd., Chalk River Nuclear
Labs, Ontario, Canada Sect.1-2 P.8-21 1975
Channelling, Cross section, Ion impact, Ion implantation, Ionization, Range,
Scattering, Single crystal, Surface, Al, Si, Cu, Ge, Kr, Pt, Silicon

550 Study of the Systems silicon-alumina and silicon-silica-alumina
by mass spectrometry of secondary ions (Russian)

Didenko P.I., Litochenko V.G., Marchenko R.I., Romanova G.F.
Poluprovodn. Tekh. Mikroelektron. N.18 P.90-2 1974
Scattering, Scattering-ions, Secondary emission, Secondary ion emission,
Sputtering, Surface, Temperature effects, Al, Si, AlO₂(+), AlO(+),
Semiconductors, SiO(+), Silicon-alumina system

551 Photoemission of positive ions in the reaction of nitrogen with
hydrogen on platinum

Zav'yalov S.A., Gutman E.E., Myasnikov I.A.
Russian J. Phys. Chem. V.49 N.1. P.137-9 1975 Trans. from Zh. Fiz. Khim.
V.49 N.1. P.237-8 1975
Adsorption, Chemical reactions, Free radicals, Ions, Photon impact,
Secondary emission, Secondary ion emission, Surface, Temperature effects,
H, Hydrazine, Platinum

552 Diatomic versus atomic secondary ion emission

Wittmaack K., Staudenmaier G.
Appl. Phys. Lett. V.27 N.6 P.318-20 1975
Ion impact, Microprobe, Molecular ions, Quadrupole, Secondary emission.
Secondary ion emission, Sputtering Surface, Yield, Al Si, Ar, Ti, V, Cr,
Ne, Mo, Ta, W, Au, Niobium, Silicon Tantalum

553 Redeposition of sputtered species during ion etching of Cu, Ag,
and Au

Miller A.C., Czanderna A.W.
J. Vacuum Sci. Technol. V.12 N.5 P.1086-7 1973
Ion impact, Scattering, Scattering-ions, Sputtering, Surface Ne, Cu, Ag,
Au, Copper foil, Gold foil, ISS, Silver foil

Figure 35. Sample of a Column from Section 6 of the Mass Spectrometry
Bulletin (United Kingdom)

- 554 Bombardment of field-emission cathodes by positive ions formed in the interelectrode region
Brodie I.
Int. J. Electron, V.38 N.4 P.541-50 1975
Electrons, Field ionization, Ion impact, Ionization, Source, Sputtering. H
- 555 Secondary-electron emission in the backward and forward directions from thin carbon foils traversed by 25-250 KeV proton beams
Meckbach W., Braunstein G., Arista N.
Phys. B (Atom. Mol. Phys.) V.8 N.14 P.1344-9 1975
Electrons, Energy distribution, Ion impact, Retarding potential measurements
Secondary emission, Secondary electron emission, Surface, Carbon foil
- 556 Experiments on compound analysis by secondary ion mass spectrometry (German)
Dittmann J.
Mikrochim, Acta, Suppl.6 P.359-71 1975
Chemical binding energy, Excitation, Fragmentation mechanism, Ion impact, Ions, Kinetics of ion formation, Low resolving power data, Molecular ions, Negative ions, Secondary emission, Secondary ion emission, SIMS, Steel, H02
- 557 Average energy of sputtered ions from fifteen polycrystalline targets
Jurela Z.
Int. J. Mass Spectrom. Ion Phys. V.18 N.2 P.101-10 1975
Energy distribution, Ions, Kinetic energy, Negative ions, Sputtering, Theoretical, Yield, C, Mg, Al, Si, Mn, Co, Ni, Cu, Ge, Me, Ag, Ta, W, Pt, Au
- 558 A quantitative model for the interpretation of secondary ion mass spectra of dilute alloys
Gries W.H., Rudenauer F.G.
Int. J. Mass Spectrom. Ion Phys. V.18 N.2 P.111-27 1975
Chemical binding energy, Energy distribution, Ion impact, Ions, Secondary emission, Secondary ion emission, Sputtering, Surface Theoretical, Yield, Mg, Al, Si, Ar, Ti, Cu, Alloys, Aluminum, Copper, SIMS
- 559 Secondary ion mass spectrometry
Evans C.A.
9th Great Lakes Regional ACS Mtg., College of St. Thomas, St. Paul, Minn., USA 4-6 June 1975 Abstr. N.62
Conference, Ion impact, Microprobe, Secondary emission, Secondary ion emission, Sputtering, Surface, SIMS, St. Paul
- 560 Surface analysis by ion scattering and secondary ion mass spectroscopy
Gen R.F.
9th Great Lakes Regional ACS Mtg. College of St. Thomas, Ts. Paul, Minn., USA 4-6 June 1975 Abstr. N.63
Conference, Detection limit, Ion energy loss spectra, low impact, Ions, Negative Ions, Scattering, Scattering-ions, Secondary emission, Secondary ion emission, Sensitivity, Sputtering, Surface, ISS SIMS, St. Paul

Figure 35. Concluded.

REFERENCES

1. F. Arnot and J. Milligan, Proc. Roy Soc. A 156, 538 (1936).
2. R. Herzog and F. Viehbock, Phys. Rev. 76, 855 (1949).
3. R. Honig, J. Appl. Phys. 29, 549 (1958).
4. G. Carter and J. Colligon, Ion Bombardment of Solids, Heinemann Educational Books, London, 1968.
5. M. Kaminsky, Atomic and Ion Impact Phenomena on Metal Surfaces, Academic Press, New York, 1965.
6. A. Benninghoven, Surf. Sci. 53, 596 (1975).
7. H. Werner, Vacuum 10, 493 (1974).
8. H. Winters, Advances in Chem. Sci. 158, M. Kaminsky, Ed. ACS, 1976.
9. J. McHugh in "Methods of Surface Analysis," A. Czanderna, Ed., Elsevier, Amsterdam, 1975, p. 223.
10. Joyes, J. Phys. Chem. Solids 32, 1269 (1971).
11. J. Schroeder, Surf. Sci. 34, 571 (1973).
12. A. Czanderna, A. C. Miller, H. F. Helbig, Paper No. 128, Scanning Electron Microscopy/1978, Apr. 1978, Los Angeles, CA.
13. A. Socha, Surf. Sci. 25, 147 (1971).
14. H. Liebl, Anal. Chem. 46, 22A (1974).
15. P. H. Dawson and P. A. Redhead, Rev. Sci. Instr. 48, 159 (1977).
16. C. W. Magee, W. L. Harrington, R. Honig, Rev. Sci. Instrum., 49, 477 (1978).
17. M. G. Dowsett, R. M. King, and E. Parker, J. Phys. E 8, 704 (1975).
18. A. Benninghoven, Surf. Sci., 39, 416 (1973).
19. R. Herzog, W. Poschenrieder, and F. Satkiewicz, Proc. Int. Conf. Ion Surface Interaction, Ed. R. Behrisch and W. Heiland Gordon & Breach, London, 1972, p. 173.
20. A. Benninghoven and A. Muller, Phys. Lett. 40, 169 (1972).
21. C. A. Evans, Jr., Anal. Chem., 44, 67A (1972).
22. G. Muller, App. Physio., 317, (1976).

REFERENCES (CONCLUDED)

23. R. Honig and C. W. Magee, Surf. Char. Symp., Pittsburgh Conf., Cleveland, Ohio, Mar. 1978.
24. H. Liebl. J. Appl. Phys. 38, 5277 (1967).
25. J. A. Leys and J. T. McKinney, 10th Ann. Meeting, Microbeam Analysis Soc., August 11-15, 1975, Las Vegas, Nevada.
26. A. Benninghoven and E. Loebach, Rev. Sci. Instrum 42, 49 (1971).
27. C. Plog, L. Wiedmann and A. Benninghoven, Surf. Sci. 67, 565 (1977).
28. A. Benninghoven and W. Sichtermann, Anal. Chem. 50, 1180 (1978).
29. H. W. Werner, Dev. in App. Spectros. 7A, 239 (1969).
30. K. Wittmaack, Surf. Sci., 53, 626 (1975).
31. J. A. Leys and J. T. McKinney, Proceedings 9th Microbeam Analysis Society of America, July 1974, Ottawa, Canada.
32. W. L. Baun in Characterization of Metal and Polymer Surfaces, Vol. I, Academic Press, 1977, p. 375.
33. W. L. Baun, J. Adhesion 7, 261 (1976).
34. G. R. Sparrow, 2nd International Conference on Deburring and Surface Conditioning, Soc. of Manufacturing Engineers, Jun 7-9, 1977, Chicago, Ill.
35. G. R. Sparrow, American Society for Mass Spectrometry, San Diego, CA, May 1976.
36. A. T. DiBenedetto and D. A. Scola, J. Coll. Inter. Sci. 64, 480 (1978).

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APPENDIX A
STABLE, NATURALLY OCCURRING
ISOTOPES AND THEIR ABUNDANCES*

*Compiled by 3M Co., St. Paul, MN

RELATIVE ABUNDANCES OF NATURALLY OCCURRING ISOTOPES

Z↓	A→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	H	99.9	.01																		
2	He				100																
3	Li					7.4	92.6														
4	Be									100											
5	B										18.3	81.7									
6	C												98.9	1.1							
7	N														99.6	0.4					
8	O																99.8	0.04	0.20		
9	F																			100	
10	Ne																				90.9
Z↓	A→	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
10	(Ne)	0.3	8.8																		
11	Na			100																	
12	Mg				78.6	10.1	11.3														
13	Al							100													
14	Si								92.2	4.7	3.1										
15	P											100									
16	S												95.0	0.8	4.2						
17	Cl															75.5					
18	Ar																0.34	24.5	0.06		99.6
19	K																			93.1	0.01
20	Ca																				97.0
Z↓	A→	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
19	K	6.9																			
20	Ca		0.6	0.1	2.1		.003		0.2												
21	Sc					100															
22	Ti						80	7.3	74.0	5.5	5.2										
23	V										0.3	99.7									
24	Cr										4.3		83.8	9.6	2.3						
25	Mn															100					
26	Fe														5.8		91.7	2.2	0.3		
27	Co																			100	
28	Ni																		67.8		26.2
Z↓	A→	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
28	(Ni)	1.2	3.6		1.2																
29	Cu			69.1		30.9															
30	Zn				48.9		27.8	4.1	18.6		0.6										
31	Ga									60.5		39.5									
32	Ge										20.5		27.4	7.7	36.7		7.7				
33	As															100					
34	Se														0.9		9.0	7.6	23.5		49.8
35	Br																			50.6	
36	Kr																		0.4		2.3
Z↓	A→	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
34	(Se)		9.2																		
35	(Br)	49.4																			
36	(Kr)		11.5	11.5	56.9		17.4														
37	Rb					72.2		27.8													
38	Sr				0.6		9.9	7.0	82.5												
39	Y									100											
40	Zr										51.5	11.2	17.1								
41	Nb													100							
42	Mo												15.9		9.1	15.7	16.5	9.5	23.7		9.6
43	Tc	DOES NOT OCCUR NATURALLY																			
44	Ru																5.6		1.9	12.7	12.6

Z↓	A→	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
44	(Ru)	17.1	31.6		18.5																
45	Rh			100																	
46	Pd		1.0		11.0	22.2	27.3		26.7		11.8										
47	Ag							51.4	48.6												
48	Cd						1.2		0.9		12.4	12.7	24.1	12.3	28.8		7.6				
49	In												4.3		95.7						
50	Sn												0.9		0.6	0.3	14.2	7.6	24.0	8.6	33.0
51	Sh																				
52	Te																				0.1
Z↓	A→	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
50	(Sn)		4.8		6.0																
51	(Sb)	57.3		42.7																	
52	(Te)		2.4	0.9	4.6	7.0	18.7		31.8		34.5										
53	I							100													
54	Xe				0.1		0.1		1.9	26.4	4.1	21.2	26.9		10.4		8.9				
55	Cs													100							
56	Ba										0.1		0.1		2.4	6.6	7.8	11.3	71.7		
57	La																		0.1	99.9	
58	Ce																0.2	0.2			88.5
Z↓	A→	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
58	(Ce)		11.1																		
59	Pr	100																			
60	Nd		27.1	12.1	23.8	8.3	17.3		5.8		5.6										
61	Pm	DOES NOT OCCUR NATURALLY																			
62	Sm				3.2			15.1	11.3	13.8	7.5		26.6		22.5						
63	Eu											47.9		52.1							
64	Gd												0.2		2.1	14.7	20.5	15.7	24.9		21.9
65	Tb																		100		
66	Dy																0.1	0.1			2.3
Z↓	A→	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
66	(Dy)	18.9	25.5	24.9	28.2																
67	Ho				100																
68	Er		0.1		1.6		33.4	22.9	27.1		14.9										
69	Tm									100											
70	Yb								0.2		3.0	14.3	21.8	16.1	31.9						
71	Lu															97.4					
72	Hf														0.2		5.2	18.5	27.1	13.8	35.2
73	Ta																			0.01	
74	W																			0.2	
Z↓	A→	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
73	(Ta)	99.9																			
74	(W)		26.4	14.4	30.6		28.4														
75	Re				37.1		62.9														
76	Os				0.02		1.58	1.6	13.3	16.1	26.4		41.0								
77	Ir											38.5		61.5							
78	Pt										0.1		0.8		32.9	33.9	25.2		7.19		
79	Au																100				
80	Hg															0.2		10.0	16.8	23.1	
Z↓	A→	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
80	(Hg)	13.2	29.8		6.9																
81	Tl			29.5		70.5															
82	Pb				1.4		25.2	21.7	51.7												
83	Bi									100											

84 (Po), 85 (At), 86 (Rn), 87 (Fr), 88 (Ra), 89 (Ac), DO NOT OCCUR NATURALLY

Z↓	A→	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
90	Th								100												
91	Pa										100										
92	U														0.06	0.7			99.3		

93 (Np), 94 (Pu), 95 (Am), 96 (Cm), 97 (Bk), 98 (Cf), 99 (Es), 100 (Fm), 101 (Md), 102 (No), 103 (Lw), DO NOT OCCUR NATURALLY

APPENDIX B
SOURCES OF INFORMATION ON SIMS AND
OTHER SURFACE CHARACTERIZATION METHODS

I. ABSTRACTING AND CURRENT AWARENESS PUBLICATIONS

A. AMERICAN CHEMICAL SOCIETY
1155 Sixteenth St. N.W.
Washington D.C. 20036

a.) ACS PUBLICATIONS

i.) ACS Single Article Service

Biweekly. It consists of the table of contents of 18 ACS journals:

ii.) Chemical Titles (CT)

Biweekly. CT is a current-awareness publication which reports the titles of recently published papers of chemical interest. CT is designed to alert chemists and chemical engineers to current information appearing in approximately 700 of the world's most important chemical journals. Each issue contains a keyword index.

iii.) CA Selects

Biweekly. A CA Selects is published for 36 different subject areas, document coverage is the same as for Chemical Abstracts. Each issue contains abstracts on that subject.

b.) CHEMICAL ABSTRACTS SERVICE DIVISION

P.O. Box 3012
Columbus, Ohio 43210

i.) Chemical Abstracts (CA)

Weekly. CA contains bibliographic citations for and abstracts of documents whose contents is related to chemistry and chemical engineering. Weekly issues contain indexes. Abstracts are grouped into 80 sections. Some 14,000 different scientific journals from more than 150 countries and in more than 50 languages are monitored regularly as are patents from 26 countries, conference proceedings and dissertations.

B. INSTITUTE FOR SCIENTIFIC INFORMATION (ISI)

325 Chestnut Street
Philadelphia, Pennsylvania 19106

i.) Current Contents

Weekly. It consists of reproduction of the table of contents of the most important journals in science. Six different topics are published including:

Physical and Chemical Sciences
Engineering, Technology and Applied Sciences

ii.) ASCA (Automatic Subject Citation Alert)

Individualised current awareness program. The researcher is the only subscriber to the profile (based on key words, authors etc.). It covers the most recent issues of 5,200 journals. Does not include abstracts.

iii.) ASCA Topics

Weekly. Current awareness program covering over 460 predetermined areas. Format is the same as ASCA.

U.S. GOVERNMENT

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161

i.) Government Reports Announcements

Biweekly. It contains abstracts of government research reports.

ii.) ERDA data bases

Many of the data bases used at the Lawrence Livermore Laboratory for determining physical and spectral properties are available through NTIS (National Technical Information Service). These include:

Spectroscopic Constants for Selected Heteronuclear
Diatomic Molecules
Atomic Energy Levels and Transition data for the First
and Second Ionisation States of the Elements Hydrogen
through Phosphorous

MISCELLANEOUS

i.) CIS (Chemical Information System)

This system which consists of eight components was developed by NIH, EPA and NBS. It is now available to the public through Fein-Marquat Associates (7215 York Road, Baltimore, Maryland 21212). The components are as follows:

- The Mass Spectra Search System (MSSS)
- The X ray Crystallographic Search System (CRYST)
- The Carbon-13 NMR Search System (CNMR)
- The Structure and Nomenclature Search System
(SANSS - formerly SSS)
- The Powder Diffraction Analysis System (PDAS
--to be available later this year)
- The Registry of Toxic Effects of Chemical Substances (RTECS)
- The On-line Modeling Laboratory (MLAB)
- The Conformational Analysis of Molecules in Solution by
Empirical and Quantum-mechanical Techniques
System (CAMSEQ)

Selected Research in Microfiche (SRIM)

Biweekly. For each subject area chosen (there are about 500 available) full texts of research reports on microfiche which pertain to that subject area are sent to the subscriber.

APPENDIX C
EARLY LITERATURE 1963 - 1972
(FROM BALZERS LITERATURE SERVICE
SIMS DEC. 1973)

63 - 1 Untersuchung über die Emission positiver Sekundärionen und die Reflexion von Elektronen an Festkörperoberflächen. V. Walther, H. Hintenberger (MPI, Mainz, D). Z. Naturforsch. (D), <u>18a</u>, 843 - 853 (1963) Elektronenstossquelle, Parabelspektr., C, Al, Fe, Co, Ag, T, W, Pt, Au, 2 Hg-Diff.-P., 3 Öldiff.-P., Ausbeute der SI als Fkt. von PI-Energie, PI-Masse, Beschusszeit und Temperatur, Energievert. der SI und reflekt. PI.	64 - 3 Secondary Positive Ion Emission from a Tantalum Surface J. A. McHugh, J. C. Sheffield (General Electric Company, Schenectady, N.Y., USA). J. Appl. Phys., <u>35</u>, 512 - 515 (1964). Ta, 180 magn. Ablg., SI-Ausbeute als Fkt. von PI-Masse und PI-Energie, Reflexionskoeff. der PI.
63 - 2 Sputtering Ion Source for Solids. H. J. Liebl, R. F. K. Herzog (Geophys. Corp. America, Bedford, USA). J. Appl. Phys., <u>34</u>, 2893 - 2896 (1963). Duoplasmatronquelle, Öldiff.-P. mit N₂-Kühlfalle, Doppelfok. nach Liebl-Wachsmuth-Ewald, Permanentmagn., Aufl. 2000, Metalle, Isolatoren.	64 - 4 Positive Sekundärionenausbeute von 21 Elementen. H. E. Beske (Univ., Mainz, D). Z. Naturforsch., (D), <u>19a</u>, 1627 - 1638 (1964) SI-Ausbeute, Ionsierungsenergie, C, Mg, Al, Si, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zr, Nb, Mo, Ag, Ta, W, Pt, Au, U.
64 - 1 Use of Secondary Ionic Emission to Investigate State of Oxygen Adsorbed on a Silver Surface. Ya. M. Fogel', B. T. Nadykto, V. I. Shvachko, V. F. Rybalko (Univ., Khar'kov, Ukraine, SU). Russ. J. Phys. Chem., <u>38</u>, 1294 - 1297 (1964). Ag, Sauerstoffadsorption, SI-Intensität als Funktion von Temperatur und O₂-Partialdruck, magn. Ablg.	64 - 5 Use of Secondary Ion Emission to Study the Catalytic Oxidation of Ammonia on Platinum. Ya. M. Fogel', B. T. Nadykto, V. F. Rybalko, V. I. Shvachko, I. E. Korobchanskaya (Univ., Khar'kov, Ukraine, SU). Kin. i Kat. (SU), <u>5</u>, 496 (1964), Russisch; Kin. and Cat. (USA), <u>5</u>, 431 (1964). Katalyse, Oxidation von N H₃, H₂ S als Katalysatormaterial, Pt
64 - 2 Massenspektrometrische Untersuchungen über die Energieverteilung zerstäubter Partikel. F. Kirchner, A. Benninghoven (Univ., Köln, D) Phys. Lett., <u>8</u>, 193 - 194 (1964). Energievert., Gegenfeld, 80 magn. Ablg., Penningquelle versch. Al-Kathoden.	64 - 6 Comment on "Sputtering Ion Source for Solids". H. P. Smith jr. (Univ., Berkeley, Calif., USA) J. Appl. Phys., <u>35</u>, 3067 - 3067 (1964). kein quantitatives SIMS bei 63-2.

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65 - 1 Über die Energieverteilung der bei der Kathodenzerstäubung ausgeschleuderten Teilchen. A. Benninghoven (Univ., Köln, D). Ann. Phys. (D), <u>15</u>, 113 - 143 (1965) Energievert. der Neutralen und Ionen, Gegenfeld, verschiedene Kathoden, Impulsübertragungsmodell.	66 - 1 Sur l'émission ionique secondaire des métaux en présence d'oxygène: G. Slodzian, J.-F. Hennequin (CNRS, Orsay, F). C. R. Acad. Sci. (F), <u>263 B</u>, 1246 - 1249 (1966). magn. Doppelprisma mit el. Spiegel, O₂-Partialdr. als Parameter für Winkel- und Energievert. und Ausbeute, Mg, Al, Si, Ti, Ni, Cu.
65 - 2 Application of the method of Secondary Ion-Ion Emission to the study of the Interaction of Oxygen with a Niobium Surface. V.I. Shvachko, B.T. Nadykto, Ya.M. Fogel', B.M. Vasyutinskii, G.N. Kartmazov (Univ., Khar'kov, Ukraine, SU). Fiz. Tverd. Tela (SU), <u>2</u>, 1944 - 1951 (1965). Russisch; Sov. Phys.-Sol. St. (USA), <u>7</u>, 1572 - 1577 (1966). Abt., Ausbeute versch. Oxid-Ionen, Temperaturverhalten, O₂-diffp., magn. Ablkg.	66 - 2 Distributions énergétique et angulaire de l'émission ionique secondaire. I. Appareil experimental. (Part II/III: 68 - 3,4) J.-F. Hennequin (CNRS, Orsay, F) Rev. Phys. Appl. (F), <u>1</u>, 273 - 281 (1966). Ablkg. mit Permanentmagn., bewegliche. Analys., Gegenfeld für Energievert., HF-Quelle, et Ablkg. der Pl, O₂-diffp. für Quelle, Pl-Einlass und Kammer, Pl-Strahlprofil.
65 - 3 Surface Ionization of Sputtered Atoms. J. M. Schröer (Cornell Univ., USA) Bull. Am. Phys. Soc. (USA), <u>10</u>, 41 (1965). Mo. UHV, 2 Modelle der Ionisierung bei der Zerstäubung, Vergl. mit Exp., Einfluss von Beschussenergie, Target Temperatur und Austrittsarbeit.	66 - 3 Investigation of the Synthesis of Ammon. on Iron by the method of Secondary Ion-Ion Emission. V.I. Shvachko, Ya.M. Fogel', V.Ya. Kolo (Univ. Khar'kov, Ukraine, SU). Kin. i Kat. (SU), <u>7</u>, 834 - 840 (1966), Russisch; Kin. and Cat. (USA), <u>7</u>, 734 - 738 (1966). Fe, N-H₃-Synthese, (3-Phasenmodell), Widerspruch zu 69 - 20.
65 - 4 Analyse des alliages par émission ionique secondaire. R. Castaing, J. F. Hennequin Quatrième Congrès International sur l'Optique des Rayons X et la Microanalyse, Orsay (1965) Hermann, Paris (1966), p. 64. Legierungen.	67 - 1 Untersuchungen zur Emission positiver Sekundärionen aus festen Targets. Die Brauchbarkeit der Ionenbeschuss-Ionenquelle in der Massenspektroskopie. H. E. Beske (Univ. Mainz, D). Z. Naturforsch. (D), <u>22a</u>, 459 - 467 (1967). pos. St. Festkörperanal. (quantitativ) Ausbeute d.

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67 - 2 Untersuchungen zum Spektrum und den Anfangsenergien negativer Sekundärionen. A. Benninghoven (Univ. Köln, D). Z. Phys. (D), <u>199</u>, 141 - 156 (1967). Energievert., Gegenfeld.	68 - 1 Use of Secondary Ionic Emission to Study Bulk Processes in Solids. V.F. Kozlov, V.M. Pistryak, Ya.M. Fogel', (Acad. Sci., Khar'kov, SU). Fiz. Tverri. Tela (SU), <u>10</u>, 3713 - 3715 (1968), Russisch; Sov. Phys.-Sol. St. (USA), <u>10</u>, 2952 - 2953 (1969). Volumenprozesse.
67 - 4 Secondary Ion Emission Ya.M. Fogel', (Acad. Sci., Khar'kov, Ukraine, SU). Usp. Fiz. Nauk (SU), <u>91</u>, 75 - 112 (1967), Rus- sisch; Sov. Phys. Uspekhi (USA), <u>10</u>, 17 - 39 (1967). Review.	68 - 2 Ein Massenspektrometer zur Untersu- chung dünner Schichten. H. W. Werner, H. A. M. de Grefte (Philips, Eindhoven, NL). Vak. Technik, <u>17</u>, 37 - 41 (1968). pos. SI, quantitative Festk. Analyse, SI-Ausläute, Ma- trixeff.
67 - 5 Excitation and Ionization of Atoms at a Surface. J.M. Schröder (Univ. of Wyoming, USA). Bull. Am. Phys. Soc. (USA), <u>12</u>, 137 (1967). 2 N. herungen für Ionisierung und Anregung bei Zer- streuung, Vergl. mit Exp.	68 - 3 Distributions énergétique et angulaire de l'émission ionique secondaire. II. Nature et distribution énergétique des ions secon- daire. (Part. I: 66-2, Part III: 68-4). J.-F. Hennequin (CNRS, Orsay, F). J. Phys. (F), <u>29</u>, 655-663 (1968). Klassifizierung der gemess. Ionen, Energievert., Emissions- winkel, Austrittsenergie der Neutralen, Mg, Al, Si, Ti, Fe, Ni, Cu.
67 - 6 Verwendung der Ionenoptik zur Mikro- analyse. R. Goutte, C. Guillaud, R. Javelas, J.P. Meriaux (Sci. Appl., Lyon, F). Optik (D), <u>26</u>, 574 - 581 (1967/68). Review, 3 prinzipiell versch. Apparaturen.	68 - 4 Distributions énergétique et angulaire de l'émission ionique secondaire. III. Distri- bution angulaire et rendements ioniques. (Part. I: 66-2, Part II: 68-3). J.-F. Hennequin (CNRS, Orsay, F). J. Phys. (F), <u>29</u>, 957 - 968 (1968). Winkelvert. der SI als Funkt. von Orientierung, Fun-

A-3-4

68 - 5 Mass Analysis of Ions Produced by Hypervelocity Impact. D.O. Hanson (TRW, Redondo Beach, Calif., USA). Appl. Phys. Lett. (USA), <u>13</u>, 89 - 91 (1968). Beschuss mit mikrosk. Eisenpart. bis 600 eV, Flugzeitsp.	68 - 9 Temps de désexcitation Auger d'un trou créé par bombardement ionique sur un niveau électronique lié d'un atome du métal irradié. P. Joyes, J.F. Hennequin (CNRS, Orsay, F). J. Phys. (F), <u>29</u>, 483 - 487 (1968). Verbindung zwischen Sekundärionen und -elektronen.
68 - 6 Oxidation of Tungsten at room temperature. V. F. Rybalko, V. Ya. Kolot, Ya. M. Fogel' (Acad. Sci., Khar'kov, Ukraine, SU) Fiz. Tverd. Tela (SU), <u>10</u>, 3176 - 3178 (1968), Russisch; Sov. Phys. Sol. St. (USA), <u>10</u>, 2518 - 2519 (1969). W, Oxidation.	68 - 10 Microanalyseur par émission ionique secondaire. J. M. Rouberol, J. Guernet, J. P. Dagnot, J. M. Guyon de la Berge, G. Möllenstedt, K. H. Gaukler: 5th Int. Congr. on X-Ray Opt.-Microsc., 311 - 318 (1968), Springer-Verlag Berlin-Heidelberg New York (D), 1969. magn. Ablg. Ionenmikroskop.
68 - 7 Massenspektrometrische Untersuchung der Sekundärionen-Emission von Legierungen. J. Schelten (Univ. Mainz, D). Z. Naturforsch. (D), <u>23a</u>, 109 - 113 (1968). Penningquelle, Doppelfok. nach Mattauch-Herzog, Auflösung: 300. 5 Oldiff.-P. Kuhlfallen mit H₂, Luft, Al- und Fe-Legierungen mit max. 10% Verunreinigung, Si-Ausbeute und Konzentration, Vergl. mit Langmuir-Saha-Gl.	68 - 11 Mass and Energy Analysis of Positive Ions Emitted from Metallic Targets bombarded by heavy ions in the keV Energy Region. Z. Jurela, B. Perovic Can. J. Phys. (CDN), <u>46</u>, 773 (1968). Metalle, pos. St. Energievert.
68 - 8 Ion Impact Desorption of Hydrogen from Glass. R. Konjevic (University of Liverpool, GB), W. A. Grant, G. Carter (Dept. of Electrical Engineering, Univ. of Salford, Lancs, GB). Vacuum (GB), <u>18</u>, 559 - 559 (1968). Glas, Desorption von H und H₂, therm. Desorption, F¹¹.	69 - 1 Progress in Analytic Methods for the Ion Microprobe Mass Analyser. Part I. (Part II: 70-5). C.A. Andersen (Appl. Res. Labs, Goleta, Calif., USA). J. Mass Sp. Ion Ph. (NL), <u>2</u>, 61 - 74 (1969). Review

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69 - 2 Eine massenspektrometrische Methode zur Bestimmung von Zerstäubungsrate und Sekundärionenausbeute beliebiger Substanzen mit Hilfe dünner Schichten. A. Benninghoven (Univ. Köln, D). Z. Angew. Phys. (D), <u>27</u>, 51 - 55 (1969). Zerstäubungsrate, SI-Ausbeute, Au, Ag, In, Zn.	69 - 6 Method of Studying the Mechanism of Catalytic Processes using Secondary Ion Ion Emission. V.L. Kuchaev, A.A. Vasilevich, L.O. Apel'baum, M.N. Temkin, Ya.M. Fogel', (Karpov Institute, Moskau, SU). Kin. y Kat. (SU), <u>10</u>, 678 - 681 (1969), Russisch Kinetics and Catal., <u>10</u>, 561 - 564 (1969). Unterscheidung der SI aus Gasphase und Oberfl., Ca-Verunrein. in Pt-Oberfl.
69 - 3 Zum Mechanismus der Ionenbildung und Ionenemission bei der Festkörperzerstäubung. A. Benninghoven (Univ. Köln, D). Z. Phys. (D), <u>220</u>, 159 - 180 (1969). Ionisierung, Emission, Rückneutralisierung.	69 - 7 Effect of Ion Bombardment on a Gas Film Adsorbed on the Surface of a Metal. V.F. Rybalko, Ya.M. Fogel', V. Ya. Kolot (Univ. Khar'kov, SU). Zh. Fiz. Khim. (SU), <u>43</u>, 955, Russisch; Russian J. Phys. Chem., <u>43</u>, 527 - 529 (1969). Bedeckung, Adsorptionsgleichgew., SI-Stromdichte, Abhängigkeit von Druck und Primärstrom.
69 - 4 Die Emission negativer Sekundärionen von Verbindungen mit komplexen Anionen. A. Benninghoven (Univ. Köln, D). Z. Naturforsch. (D), <u>24a</u>, 859 - 861 (1969). neg. SI aus komplexen Anionen.	69 - 8 On Sputtering Probability of Secondary Tungstenoxide Ions with Ar⁺ Ions. V. F. Rybalko, V. Ya. Kolot, Ya. M. Fogel' Ukrayin. Fiz. Zh. (SU), <u>14</u>, 913 (1969), Russisch. W, Oxidation.
69 - 5 Investigation of Solids by means of An Ion-Bombardment Mass Spectrometer. H.W. Werner (Philips, Eindhoven, NL). Developments in applied spectroscopy, Chicago, Ill. (USA), 13 - 17. Mai 1968; London (GB), Plenum 1969, 239 - 266. Oxidation und Ionenausbeute, Diffusionsprofile, Diff. von I₂ in Ge.	69 - 9 Investigation of the Oxidation of Tungsten by the Method of Secondary Ion-Ion Emission. V. F. Rybalko, V. Ya. Kolot, Ya. M. Fogel' Izv. Ak. Nauk SSSR Ser. Fiz. (SU), <u>33</u>, 836 (1969), Russisch. W, Oxidation.

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69 - 10 Effect of Oxygen Pressure on the Oxidation Process of Tungsten. V. F. Rybalko, V. Ya. Kolot, Ya. M. Fogel' (Acad. Sci., Khar'kov, Ukr., SU) Fiz. Tverd. Tela (SU), 11, 1404 - 1406 (1969), Russisch; Sov. Phys. Sol. St. (USA), 11, 1142 - 1143 (1969). W. Oxidation, 02-Partialdruck.	69 - 14 Analysis of Submonolayers on Silver by Negative Secondary Ion Emission. A. Benninghoven (Univ., Köln, D) Phys. Stat. Sol. (D), 34, K 169 - 171 (1969). Monolage, statisch, magn. Abkfg., 10 ppm.
69 - 11 Investigation of Oxygen Adsorption on Tungsten by Secondary Ion-Ion Emission. V. F. Rybalko, V. Ya. Kolot, Ya. M. Fogel' (Acad. Sci., Khar'kov, Ukr., SU). Zh. Tekh. Fiz. (SU), 39, 1717 - 1719 (1969), Russisch; Sov. Phys. Tech. Phys. (USA), 14, 1290 - 1291 (1970). W (100), Oxidation, 02-Adsorption	69 - 15 Expulsion d'un électron lié due au choc de deux atomes d'un métal. P. Joyes (CNRS, Orsay, F). J. Phys. (F), 30, 243 - 251 (1969). kinetische Emission der SI, Ionisierung in der Tiefe, Lebensdauer der virtuellen Ionisierung.
69 - 12 Mass and Energy Analysis of Negative Ions Emitted from Al, Mn, Co, Ta, and Au Targets Bombarded by 40 keV Ar⁺ - Ions. Z. Jurela (Boris Kidric Inst. Nucl. Sci., Belgrad, YU). Editura Academiei Republicii Socialiste Romania: 9th international conference on phenomena in ionized gases, 1969, Bukarest, Rumänien, 1 - 6 Sep. 1969, p. 89. Al, Mn, Co, Ta, Au, Energievert., neg. SI, Elektronenaffinität und Bedeckungsgrad als Ausbeuteparameter.	69 - 16 Etude theorique de l'émission ionique secondaire. P. Joyes (CNRS, Orsay, F). J. Phys. (F), 30, 365 - 376 (1969). kinetische Emission, Ein- und Mehrfachionisierung, theoretische Ausbeuten und Energiespektren der SI, Al, Mg, Cu.
69 - 13 Secondary Emission of Mo⁺ Ions during Bombardment of Molybdenum by Alkali-Metal Ions. A. A. Adylov, V. I. Veksler, A. M. Reznik (Univ., Taschkent, SU). Fiz. Tverd. Tela (SU), 11, 1779 - 1787 (1969), Russisch; Sov. Phys. Sol. St. (USA), 11, 1441 - 1447 (1970). Mo, Mo⁺, Matrixverunreinigg., Hg-Pumpen, Energievert. bei versch. Pl-Energ., Temperatur, Pl-Stromdichte und Druck als Ausbeuteparameter.	69 - 17 The Origin of Multi-Charged Secondary Ions, Produced by the Ionic Bombardment of a Metal J. F. Hennequin, G. Blaise, G. Slodzian C. R. Acad. Sci. (F), 268B, 1507 - 1510 (1969), Französisch. Mehrfachionierte SI, kinetische Emission leichter Metalle, Ladungstransfer mit Pl bei schweren Metallen.

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69 - 18 An Ion Microprobe Analyser. H. Nishimura, J. Okano (Univ. Osaka, J). Japan J. Appl. Phys. (J), <u>8</u>, 1335 - 1345 (1969). IMMA, Doppelfok., Intensitat als Fkt. des Oberfl.-Zustandes, Nachweisempf. fur Ti, V, Cr, Mn, Fe, Co, Ni in Fe-Legierungen und fur B in Si, Fe-Meteorit Odessa.	70 - 1 Application de l'émission ionique secondaire a l'analyse des couches superficielles. R. Hernandez, P. Lanusse, G. Slodzian. CR. Hebd. Sean. Acad. Sci. Ser. B. (F), <u>271B</u>, 1033 - 1036 (1970). Zerstaubungsprozesse, Doppelfok.
69 - 19 Electron and Ion Microprobe Analysis. F. Heinrich (Nat. Bur. Stand., Washington, D. C., USA). L. Marton: 10th Symp. Electron, Ion and Laser Beam Tech., Gaithersburg, Md. (USA), 21 - 23 May 1969 (San Francisco, Calif., USA: San Francisco Press Inc. 1969), p. 353 - 362. Elektronen- und Ionenmikrosonde, Review	70 - 2 Einfluss der Oberflächenzusammensetzung auf die durch Aufspaltung einer Ionenbindung verursachte Sekundärionenemission von Festkörpern. A. Benninghoven (Univ. Köln). Phys. Lett. A (NLI), <u>32a</u>, 427 - 428 (1970) SI durch Stossdissociation, Rückneutralis.
69 - 20 The Use of an Ion Probe Technique for Investigating Surface Reactions: The Synthesis of Deutero-Ammonia on Pure Iron. J. C. Robb, D. R. Terrell, D. W. Thomas (Univ., Birmingham, GB). D. Price, J. E. Williams: Dynamic Mass Spectrometry, <u>1</u>, 87 - 104 (1969), Heyden + Son Ltd., Sadtler Res. Lab. Inc. Fe, N-D3-Synthese, Widerspruch zu 66-3, Flugzeitspektrometer.	70 - 3 Die Analyse monomolekularer Festkörperoberflächenschichten mit Hilfe der Sekundärionenemission. A. Benninghoven (Univ. Köln). Z. Phys. (D), <u>230</u>, 403 - 417 (1970) statisch, Monolage, Ag, Mo.
69 - 21 Application of the Ion Microprobe Mass Analyser. C. A. Andersen, H. J. Roden, C. F. Robinson (Hastler, Goleta, Calif., USA). K. Ogata, T. Hayakawa: Rec. Dev. in Mass Sp., 215 - 224 (1970), Univ. Park Press, Baltimore-London-Tokyo; Proc. Int. Conf. Mass. Sp., Kyoto (J), 8 - 12 Sep. 1969. IMMA von LIEBH, Duoplasmatron, Doppelfok	70 - 4 Influence of Composition and Structure of Fe-C Alloys on Discharge of Positive Ions during Atomization by Ionic Bombardment. M. A. Vasil'ev, Yu. N. Ivashchenko, V. T. Cherepin. Akad. Nauk. UKSSR. Metallofiz. (UdSSR), <u>32</u>, 143 - 148 (1970), Russisch. Fe-C-Legierung, pos. SI, Intensitat prop. C-Gehalt, Intens. unabh. von Matrixstruktur.

A-3-8

70 - 5 Analytic Methods for the Ion Microprobe Mass Analyser. Part II. (Part I: 69-1) C. A. Andersen (Appl. Res. Labs., Goleta, Calif., USA) J. Mass Sp. Ion Ph. (INL), <u>3</u>, 413 - 428 (1970) zerstaubte Atome, SI-Emission, Elektr. Austausch SI-Oberfl., elektropos. und -neg. Pl.	70 - 9 Formation of Islands of a Diffusant under Surface Diffusion Conditions. A. D. Abramenzov, V. V. Slezov, L. V. Tatarov, Ya. M. Fogel', (Acad. of Sci., Khar'kov, Ukraine, USSR) Fiz. Tveru. Tela (UdSSR), <u>12</u>, 2934 - 2941 (1970) Russisch; Sov. Phys. Sol. State, <u>12</u>, 2369 - 2373 (1971). Oberfl.-Diff. von Fremdmetailatomen, Inselbildung, Zonenstrukt.
70 - 6 Analysis by Bombardment with Chemically Reactive Ions. C. A. Andersen, H. J. Liebl (Appl. Res. Labs., Goleta, Calif., USA) Patent USA 3508045, 12. Juli 1968; publ. 21. Apr. 1970, USA 753 822. elektronneg. Pl, chemische Analyse.	70 - 10 Mass Spectrometric Analysis of Monomolecular Layers of Solids by Secondary Ion Emission A. Benninghoven (Univ. Köln, D) Int. Conv. Mass Spectr., Brussel (B), (1970) Monolage
70 - 7 Die Emission zusammengesetzter negativer Sekundärionen aus kontinuierlich regenerierten Targetoberflächen. P. Mokler (MPI Kernph., Heidelberg, D). Z. Phys. (D), <u>232</u>, 452 - 461 (1970) SI-Emission, regener. Oberfl., Einflüsse auf SI-Intens., magn. Abkfg.	70 - 11 Application of Mass Spectroscopy to the Analysis of Solids, a Review R.E. Honig Koreichi Ogata, Teruo Hayakawa: Rec. Developm in Mass Spectr., 116 - 149 (1970), Univ. Park Press, Baltimore-London-Tokyo Review
70 - 8 Secondary Ion Emission from Solid Surfaces. R. Castaing, J.-F. Hennequin (CNRS, Orsay, F). Preprint, Int. Conf. on Mass Spec., Brussel; Sec. Ion Em. and Surf. Phen. (4. Sept. 1970). Massenspektrometer, Ionenmikrosonde, Winkelvert. Energievert. durch Gegenfeld, quantitative kinetische SI-Emission.	70 - 12 Secondary Ion Yields in a Sputtering Mass Spectrometer H. Doi, H. Tamura, I. Omura, T. Kondo, S. Taya Koreichi Ogata, Teruo Hayakawa: Rec. Development in Mass Spectr. 1089 - 1093 (1970) Univ. Park Press, Baltimore-London-Tokyo SI-Ausbeute, Duoplasmatron, Doppelfok., Adsorption

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70 - 13 Mass Analysis of Positive and Negative Secondary Ions Emitted from Na-Cl and K-Cl Monocrystals Bombarded by 40 keV Argon Ions. Z. Jurela A. Moljk, M. Kasumovic, M. Gerineo: <i>Fizika</i>, 2, 64 (1970), Iupap, YU; (Proc. V. Symp. Phys. of Ionized Gases, Hercegenovi, 1970). Austrittsarbeit und Leitfähigkeit als Parameter der Si-Ausb., Na-Cl, K-Cl.	70 - 17 Mass Spectrometric Investigation of Ion Emission Produced during Bombardment of Materials by Argon Ions. M.A. Vasil'ev, Yu.N. Ivashchenko, V.T. Cherepin Akad. Nauk. UKSSR. <i>Metallfiz. (SU)</i>, 32, 148 - 153 (1970), Russisch Apparatur MI-1305, Ti, V, Si-Intensitäten für 13 Metalle.
70 - 14 A study of the Cleaning of Carbon Impurity from Molybdenum. V.Ya. Kolot, V.I. Tatus, V.F. Rybalko, Ya.M. Fogel' Ukr. Fiz. Zh. (SU), 15, 226 - 268 (1970), Russisch; Ukr. Phys. J. (USA) Mo, C-Verunreinig., Ausheizen	70 - 18 Investigation of Oxygen Adsorption on a Molybdenum Surface by means of Secondary Ion-Ion Emission V.Ya. Kolot, V.I. Tatus', V.F. Rybalko, Ya.M. Fogel' Zh. Tekh. Fiz. (SU), 40, 2469 - 2471 (1970) Russisch; Sov. Phys. Tech. Phys. (USA), 15, 1934 - 1936 (1971) Mo (100), O₂-Adsorption, Oxidation, 2-Phasenmodelle, Vergl. W.
70 - 15 Observing Surface Oxidation of Molybdenum with the Statical Method of secondary Ion Mass Spectroscopy A. Benninghoven (Univ. Köln, D) Chem. Phys. Lett., 6, 626 - 628 (1970) Mo. Oxidation, magn. Ablsg., statisch	70 - 19 Monoschichtanalysen an Eisenoberflächen A. Benninghoven, E. Stumpe (Univ. Köln, D) Verhandl. DPG (D), 3, 199, VA-61 (1970) Fe, Monolage
70 - 16 Use of an MI-1305 Mass Spectrometer to Study the Secondary Ion Emission of Solids. M.A. Vasil'ev, Y.N. Ivashchenko, V.T. Cherepin. Instr. Exp. Techn., 2, 523 - 525 (1970) Ti, Apparatur MI-1305	70 - 20 Investigation of Surface Diffusion of Copper Atoms on Molybdenum by Secondary Ion-Ion Emission A.D. Abramnikov, V.V. Slezov, L.V. Tanatorov, Ya.M. Fogel' (Acad. Sci., Kharkov, Ukraine, SU) Fiz. Tverd. Tela (SU), 12, 2929 - 2933 (1970) Russisch; Sov. Phys.-Sol. St. (USA), 12, 2365 - 2368 (1971) Cu auf Mo, Injektierung, O₂-effl.-Diff. (Diff. ...)

A-3-10

70 - 21 Alternances dans les intensités en ion moléculaires secondaires émis par des métaux nobles soumis à un bombardement ionique primaire. P. Joyes IV. Coll. Nat., Brest, 13 - 15 Mai, 16 H 30 (1970) Stosstheorie, mehratomige Ionen	71 - 3 Emission ionique secondaire des Alliages Cuivre-Aluminium en Présence d'Oxygène D. Brochard, G. Slodzian (CNRS, Orsay, F) J. Phys. (F), <u>32</u>, 185 - 190 (1971) Mehrfachionisierung durch angeregte Schalen bei Al, O2 Einfluss auf Emission von Cu⁺, Al⁺⁺, Al⁺⁺⁺.
70 - 22 Analytical Applications of an Ion Microprobe Mass Spectrometer. Negative Ion Spectroscopy C.A. Evans jr. Int. Conf. Mass Sp., Brussel (B), (1970) Ionemikrosonde, neg. SI	71 - 4 Emission ionique secondaire des éléments de transition en solution diluée dans des alliages, influence des états électroniques localisés. G. Blaise, G. Slodzian (CNRS, Orsay, F) C.R. Hebd. Seances Acad. Sci. B. (F), <u>273B</u>, 357 - 360 (1971) Ionenemission von Übergangsel. in Matrix aus Fe, Co, Ni, Cu, Al, lokale el. Struktur und Ionis. -Wersch.
71 - 1 Untersuchung der Grenzflächen und des Volumens dünner Schichten mit Hilfe der Sekundärionen-Massenspektroskopie. A. Benninghoven, S. Storp. (Univ. Köln) Z. Angew. Phys., <u>31</u>, 31 - 37 (1971) dünne Schichten, UHV, Al auf Mo aufgedampft, oberfl. und innere Kontam. und Oxidschichten	71 - 5 Mass Spectrometric Method of Detection of Negative Ions from the Target Surface during Low Energy Sputtering A.B. Campbell, C.B. Cooper J. of Physics E, <u>4</u>, 876 - 878 (1971) neg. SI, magn. Abkgl., Untersch. der Si aus Oberfl. und Vol.
71 - 2 Beobachtung von Oberflächenreaktionen mit der statischen Methode der Sekundärionen-Massenspektroskopie. I. Die Methode. A. Benninghoven (Univ. Köln) Surface Sci. (NL), <u>28</u>, 541 - 562 (1971) Review	71 - 6 Analysis of Surfaces Utilizing Sputter Ion Source Instruments A.J. Socha (Bell Howell, Pasadena, Calif., USA) Surface Sci. (NL), <u>25</u>, 147 - 170 (1971); Symposium on modern methods of surface analysis, Murray Hill, N.J., USA (14. Mai 1970) Review

71 - 7 Emission d'ions négatifs par une cible métallique mince bombardée par des ions positifs S. Paletto, R. Goutte, C. Guillaud (Lab. D'Optique Corpusc., d'Electroacoustique, 69-Villeurbanne, F.) CR Acad. Sci. (F), <u>273B</u>, 975 - 978 (1971) neg. SI, SIMS in Transm. und Reflexion, Energieanalyse, var. Gegenfeld	71 - 11 New Analytical Techniques Provided by the Ion Analyser. R.K. Lewis (Cameca, Elmsford, N.Y. USA) 10th national meeting of the society for applied spectroscopy (abstracts only), St. Louis, Mo., USA, 18 - 22 Oct. 1971; (New York, USA: Soc. Applied Spectroscopy 1971), p. 10 10⁻¹¹-15 bis 10⁻¹²-19 g Nachweisgrenze, Diffusionsprofile, Tiefenauflösung 100 Å
71 - 8 Die Analyse von Festkörperoberflächen und dünnen Schichten mit der statischen Methode der Sekundärionen-Massenspektroskopie A. Benninghoven (Univ. Köln, D.) M. Auwärter: Ergebnisse der Hochvakuumtechnik und der Physik dünner Schichten, Band II, 81 - 101 (1971), Wissensch. Verlagsges., Stuttgart (D) Review	71 - 12 Ein Tandem-Massenspektrometer zur Untersuchung der Sekundärionenemission von Festkörperoberflächen A. Benninghoven, E. Löbach (Univ. Köln, D.) Verhdt. DPG (D), <u>6</u>, 593 (1971) Elektronenbeschuss, Quadrupol. UHV, statisch, W. Adsorption
71 - 9 Mass Spectrometric Analysis of Monomolecular Layers of Solids by Secondary Ion Emission A. Benninghoven (Univ. Köln, D.) A. Quayle: Advances in Mass Spectrometry, <u>5</u>, 444 - 447 (1971), Elsevier Publ. Co. Ltd. Monolage	71 - 13 Analyses de Couches minces de Silice par Emission ionique secondaire B. Blanchard, N. Hilleret (DCA, SEAPC) J. Monnier (LETI, ICENG, Grenoble, F.) Mat. Res. Bull. (USA), <u>6</u>, 1283 - 1296 (1971) Tiefenprofil von B in Si und Si-Oxiden, Ausbeute.
71 - 10 Mass Spectrometric Measurements of the Secondary Ion Emission of Alloys as an Analytical Tool V. Cherepin A. Quayle: Advances in Mass Spectrometry, <u>5</u>, 448 - 450 (1971), Elsevier Publ. Co. Ltd. Legierungen, Oberfl.-Analyse	71 - 14 Tandem Mass Spectrometer for Secondary Ion Studies. A. Benninghoven, E. Löbach (Univ. Köln, D) Rev. Sci. Instrum., <u>42</u>, 49 - 52 (1971) SIMS, EID, Quadrupol, UHV, statisch, Auflösung Mo.

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71 - 15 Study of Molybdenum Oxide Surface Composition Using Secondary Ion-Ion Emission V.Ya. Kolot, V.I. Tatus', V.F. Rybalko, Ya.M. Fogel' Izv. Akad. Nauk SSSR Ser. Fiz. (SU), 35, 255 - 260 (1971), Russisch; Bull. Acad. Sci. USSR, Phys. Ser. (USA) Mo, Mo-Oxide, Temperatur und O₂-Partialdruck als Parameter der Oxidbedeckung.	71 - 19 Mechanism of Formation of the Ion Component in Cathode Sputtering of Metals V.I. Veksler, B.A. Tsipinyuk (Univ. Tashkent, SU) Zh. Eksp. Teor. Fiz. (SU), 60, 1393 - 1398 (1971), Russisch; Sov. Phys. JETP (USA), 33, 753 - 753 - 756 (1971) Mo, magn. Ablg., Nachionisierung, Energiespektren, kinetische Emission, nichtadiab. Emission.
71 - 16 Effect of Oxygen Pressure on the Initial Stage in the Oxidation of Molybdenum V.Ya. Kolot, V.I. Tatus', V.F. Rybalko, Ya.M. Fogel', V.V. Vodolazhchenko, V.M. Evseev (Akad. Sci., Kharkov, Ukraine, SU) Fiz. Tverd. Tela (SU), 13, 1521 - 1524 (1971), Russisch; Sov. Phys.-Sol. St. (USA), 13, 1275 - 1277 (1971) Mo, (100), Oxidationsbeginn, O₂-Partialdruck als Parameter der Oxidation.	71 - 20 Interaction of Ions and Electrons with Adsorbed Gases. R. Clampitt (Culham Lab., Abingdon, Engl., GB) Proc. 2nd Int. Conf. Florenz (I), Apr 1971; F. Ricca: Adsorption-Desorption Phenomena, 203 - 212 (1972), Acad. Press. London, New York. EID, SIMS, Ad- und Desorption, Energievert.
71 - 17 Changes in the Characteristic Energy-Loss Spectrum of Molybdenum during Oxidation of the Molybdenum Surface V.V. Zashkvara, V.Ya. Kolot, V.S. Red'kin, V.N. Demin, M.I. Korsunskii, Ya. M. Fogel' (Acad. Sci., Alma-Ata, Kasachstan, SU) Fiz. Tverd. Tela (SU), 13, 3376 - 3380 (1971) Russisch; Sov. Phys.-Sol. St. (USA), 13, 2836 - 2839 (1972). Elektronenreflexion mit Energieverlustspektrum, simult. SIMS, Oxidation als Parameter des Energieverlustspektrum.	71 - 21 A Combined Ion and Electron Microprobe H. Liebl A. Quayle: Advances in Mass Spectrometry, 5, 433 - 435 (1971), Elsevier Publ. Co. Ltd. Ionen- und Elektronenmikrosonde, doppelfok.
71 - 18 Ion Mass-Spectral Microscope Yu.P. Maifet, V.T. Cherepin Pribor. Tekh. Eksp. (SU), 14, 272 (1971), Russisch; Instrum. + Exp. Tech. (USA), 14, 1587 (1971). Oberfl., Volumen, opt. Auflösung 1 - 2μ, Bereich 1 - 120 amu, Massenauflos. 60, Empfindlichkeit 2*10⁻¹³%, Tiefenauflosung 150 - 200 Å, 10⁻¹⁰ - 6 Torr.	71 - 22 Secondary Ion Emission from Solid Surfaces R. Castaing, J.F. Hennequin A. Quayle: Advances in Mass Spectrometry, 5, 419 - 426 (1971), Elsevier Publ. Co. Ltd. Augereffekt

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71 - 23 A Study of Quantitative Microanalysis by Secondary Ion Emission M. Croset Revue Tech. Thomson-CSF (F), 3, 19 - 36 (1971) quantitative Titration, B in Si.	71 - 27 Ion Probe M. Bayard I.W.C. McCrone Associates Inc., Chicago III., USA) Microscope (GB), 19, 425 - 426 (1971); Inter-Micro 71, London, GB, 20 - 24 Sep 1971 IMMA, Review, Empfindlichkeit, Spurenanalyse
71 - 24 Alternations in the Secondary Emission of Molecular Ions from Noble Metals P. Joyes (CNRS, Orsay, F) J. Phys. Chem. Sol. (GB), 32, 1269 - 1275 (1971) Cu n + Ag n ⁺, Parität von n, Stabilität, Ionen, Pot., Elektronenaffinität.	71 - 28 Surface Analysis Using Simultaneous Electron and Ion Bombardment C.R. Crawford (MIT, Cambridge, USA) 10th national meeting of the society for applied spectroscopy (Abstracts only), St. Louis, Mo. (USA), 18 - 22 Oct 1971 (New York, USA: Soc. Appl. Spectroscopy 1971), p. 70 Elektronenrastermikr. und IMMA in einem Gerät, Tiefenprofile
71 - 25 On a Mechanism of Secondary Emission of Polyatomic Particles P. Joyes (CNRS, Orsay, F) J. Phys. B. (GB), 4, L 15 - 18 (1971) Impulsübertrag langs Molekulachse, Emissionsenergie	71 - 29 Der Entwicklungsstand der Ionenmikrosonde für die Untersuchung von Festkörperverkstoffen. D.D. Klemm (Univ. München, D) Exp. Tech. Phys. (D), 19, 467 - 472 (1971) Vergl. versch. SIMS- und IMMA-Apparaturen.
71 - 26 The Ion Microprobe Mass Analyser J.B. Nicholson (Appl. Res. Labs., Sunland, Calif., USA) 10th national meeting of the society for applied spectroscopy (Abstracts only), St. Louis, Mo. (USA), 18 - 22 Oct 1971 (New York, USA: Soc. Appl. Spectroscopy 1971), p. 69 - 70. IMMA, Review	71 - 30 Analytical Applications of an Ion Microprobe Mass Spectrometer - Negative Ion Spectroscopy C.A. Evans jr. A. Quayle: Advances in Mass Spectrometry, 5, 436 - 440 (1971), Elsevier Publ. Co. Ltd. Ionenmikrosonde, neg. SI

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71 - 31 Analysis of Thin Films by Ion Microprobe Mass Analyser. H. Tamura, T. Kondo, H. Doi A. Quayle: Advances in Mass Spectrometry, <u>5</u>, 441 - 443 (1971), Elsevier Publ. Co. Ltd. IMMA, dünne Schichten.	72 - 3 Ion-Ion Emission - a New Tool for Mass Spectrometric Investigations of Processes on the Surface and in the Bulk of Solids. Ya.M. Fogel (Gorki State Univ., Kharkov, UdSSR) Int. J. Mass Sp. Ion P. (NL), <u>9</u>, 109 - 125 (1972) Review
71 - 32 Application of Mass Spectrometry to the Analysis of Semiconductor Materials G.C. Sweeney, E. Berkey (Westinghouse, Pittsburgh, Pa., USA). 10th national meeting of the society for applied spectroscopy, St. Louis, Mo., USA, 18 - 22 Oct 1971 (New York, USA: Soc. Appl. Spectroscopy 1971), p. 71 - 72 Vergleich von Massenspektrometern mit SI und Funkenionenquelle, Si, (Ga, As), Dotierungs- und Verunreinigungsanalysen.	72 - 4 Analysensystem zur Sekundär-Ionen-Massenspektrometrie im Ultra-Hochvakuum W.K. Huber, E. Löbach (Balzers, Liechtenstein) Verhandl. DPG, <u>5</u>, 470, 0 - 28 (1972) Monolage, UHV, N₂-Kuhf., Turbop., Ti-Subl.-P., Quadr.
72 - 1 An Analytical System for Secondary Ion Mass Spectrometry in Ultra High Vacuum W.K. Huber, H. Selhofer (Balzers, Liechtenstein) A. Benninghoven (Universität Köln) J. Vac. Sci. Tech. (USA), <u>9</u>, 482 - 486 (1972); Proc. of the 5th int. vac. congr. part I, Boston, Mass., USA (1971) UHV-Monolage, Profil, SIMS, EID, AES, Targetwechsler, El.-Quelle zur Entladung, Quadr., Turbop., N₂ Kuhf., Ti-Subl.-P.	72 - 5 Ein Sekundärionenmassenspektrometer hoher Nachweisempfindlichkeit mit elektrischem Quadrupol. J. Maul, F. Schulz, K. Wittmaack (GSF, Neuherberg). Verhandl. DPG, <u>5</u>, 444, S-21 (1972) grobe Energieanalyse, Quadr., Plattenkondensator gegen Untergrund, Dotierungsprofile von B in Si (bis ppb).
72 - 2 Spectrographie de masse avec source à émission ionique secondaire R. Hernandez, P. Lanusse, G. Slodzian, G. Vidal (ONERA, Chatillon, F) Recherche Aérosp. 313 (1972) Mettach Herzog doppel-fok., Monolage, Profil, Ausbeute, Ionenp., Ti-Subl.-P. Duoplasmatron, fraktion. Beschuss	72 - 6 Probleme und Empfindlichkeitsgrenzen der Sekundärionenmassenspektrometrie F.G. Rudenauer Verhandl. DPG, <u>5</u>, 469, 0 - 27 (1972) Parameter der Nachweisempf. (quantitativ), Ionenqu.-Emission, Anal.-Akzeptanz, Phasenraumanpassung, 0,001 ppb, magn. Ablsg.

A-315

72 - 7 Analyse von Festkörperoberflächen mit Hilfe der Sekundärionen-Massenspektroskopie (SIMS). A. Benninghoven (Univ. Köln) Chemie-Ing.-Tech., <u>44</u>, 910 (1972) Review	72 - 11 Untersuchungen der Oberflächenoxidation von Cr, Ni und Cu im Submonolagen- und Monolagenbereich mit SIMS. A. Müller, A. Benninghoven (Univ. Köln, D) Verhandl. DPG (D), <u>5</u>, 470, 0 - 29 (1972) Cr, Ni, Cu, Oxidation, statisch, O₂-Dosis als Parameter der Intensität, Zerstäubungsrate.
72 - 8 Investigation of Negative-Ion Formation by Surface Ionization. E.Ya. Zandberg, V.I. Paleev (Acad. Sci. Leningrad, UdSSR). Zh. Tekh. Fiz. (UdSSR), <u>42</u>, 844 - 850 (1972) Russisch; Sov. Phys.-Tech. Phys. (USA), <u>17</u>, 665 - 670 (1972) neg. Spektren, Oberfl.-Ionis., EID, SIMS, Energievert., magn. Ablg.	72 - 12 Investigation of the Initial stages of Vacuum Condensation of Silver on Nickel Substrates by Secondary Ion-Ion Emission. A.D. Abramenzov, A.L. Seryugin, V.V. V.V. Dyatlova, Ya.M. Fogel', G.F. Potebnya (Acad. Sci., Kharkov, Ukraine, SU). Fiz. Met. + Metalloved, (SU), <u>33</u>, 853 - 855 (1972), Russisch; Phys. Met. + Metallogr. (GB) Ag auf Ni, zeitl. Intensitätsverlauf, Vakuumkondensation, Facettenbildung.
72 - 9 Polyatomic Negative Ions of Carbon and Carbon Compounds. E.Ya. Zandberg, V.I. Paleev (Acad. Sci., Leningrad, UdSSR) Zh. Tekh. Fiz. (UdSSR), <u>42</u>, 851 - 854 (1972) Russisch; Sov. Phys.-Tech. Phys. (USA), <u>17</u>, 671 - 673 (1972) neg. Spekt., Oberfl.-Ionis., magn. Ablg., Cn⁻ bis n = 15, Cn⁻ - H⁻ bis n = 13, Cn⁻ - N⁻ bis n = 13, Einfluss von n auf Ausbeute.	72 - 13 Mass Spectra Stimulated by O⁺ and Ar⁺ Interacting with a Surface M.W. Siegel, R.H. Krauss, J.W. Boring J. Chem. Phys., <u>57</u>, 3576 - 3578 (1972) Cu.
72 - 10 Molybdenum Purified from a Carbon Impurity. V.Ya. Kolot, V.I. Tatus', V.V. Vodolazhenko, V.F. Rybalko, A.E. Grodshstein, N.D. Kirsanov, Ya.M. Fogel' Zh. Tekh. Fiz. (SU), <u>42</u>, 144 (1972), Russisch; Sov. Phys. Tech. Phys. (USA), <u>17</u>.	72 - 14 The Study of Amorphous and Crystalline Silicon thin Films by Sputter-Ion Source Mass Spectrometry. L.C. Feldman, F.G. Sankiewicz Thin Solid Films, <u>12</u>, 217 - 222 (1972) Si, dünne Schichten.

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72 - 15 Energy Distribution and Mean Energy of Secondary Ions from Polycrystalline Targets Z. Jurela (Boris Kidric Inst., Belgrad, YU). 6th Yugoslav Symposium on Physics of Ionized Gases, Split, YU, 16 - 21 Jul 1972 (Belgrad, YU: Inst. of Phys. 1972), p. 115 - 118. Metalle, Halbleiter, Energievert. der pos. SI, nichtadiab. Emission.	72 - 19 Possibilities of the Ion Microprobe in Surface Analysis. L. Habraken, V. Leroy, J.P. Servais (CRM, Liege, B) Electron and Ion Beam Science and Technology Fifth International Conference, Houston, Tex. (USA), Mai 1972 (Princeton, N.J., USA: Electrochemical Soc., Inc. 1972), p. 196 - 216. Ionenmikrosonde, Oberfl.-Analyse, dünne Schichten, Beschusskreter, Mikroanalyse, Tiefenprofile überzogener Stähle.
72 - 16 Comparison of Secondary Ion Yields from Conducting, Semiconducting, and Nonconducting Targets Bombarded with 40 keV Argon Ions. Z. Jurela (Boris Kidric Inst., Belgrad, YU) Radiat. Eff. (GB), <u>13</u>, 167 - 170 (1972); Atomic Collisions in solids. IV, Physics of Channeling and Related Phenomena, Gausdal (N), 20 - 24 Sep 1971. Al, Si, Ge, Ne-Cl, K-Cl, Ausbeute, Ionisierungsgrad, Energievert. der Atome, Emissionsmodell (Impulsübertragung, lokale Überhitzung), Ausbeute nicht prop. Konzentration.	72 - 20 A New Analytical Technique for Insulating Materials by Means of an Ion Microanalyser. K. Nakamura, S. Aoki, Y. Nakajima (Hitachi Ltd., Ibaraki-ken, J), H. Doi, H. Tamura Mass Spectrosc. (J), <u>20</u>, 1 - 9 (1972) Isolatoren, Elektronenbeschuss gegen Aufladung.
72 - 17 Theory of the Ionization Probability for an Atom Crossing a Metal-Vacuum Surface P. Joyes, G. Toulouse (CNRS, Orsay, F) Phys. Lett. (NL) <u>39A</u>, 267 - 268 (1972) Ionisierungswahrsch., Emission von Metallatom aus Metalloberfläche.	72 - 21 Ionenmikrosondenanalysatoren H. Liebi (Euratom-Assoziation, Garching, D). Messtechnik (D), <u>80</u>, 358 - 365 (1972) Ionenmikrosonde, Review
72 - 18 Influence of Asymmetrical Correlations in the Secondary Emission of Solid Compounds. P. Joyes (CNRS, Orsay, F). J. Phys. C. (GB), <u>5</u>, 2192 - 2199 (1972). kinetische Emission, 2-Komponenten-Targets, (Al, O), (Al, Cu).	72 - 22 Ion Microprobe Mass Analyser C.A. Andersen, J.R. Hinthorne (Hastler, Goleta, Calif., USA). Science (USA), <u>175</u>, 853 - 860 (1972) Review, IMMA von Liebi.

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APPENDIX D
RECENT LITERATURE - SIMS COMPUTER SEARCH OF
CHEMICAL ABSTRACTS 1972 THROUGH 18 MAY 1978
LOCKHEED SYSTEM

Index identifies referenced by page number and
alphabetical letter serially assigned to each reference.

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AFML-TR-79-4123

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(Fe) 5D, 26A (Pt) - 6D, 42A, 46E (Ta) - 10B (Cu) - 15F
(Al) - 20E, 24A, 25B, 50A (I) - 25F, (V) - 32E, (H) - 34E,
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Alloys - (Cu/Be) 9F, (Cu/Ni) (Cu/Al) 20D, (7050 & 6061 Al) 21C,
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(Fe Cr) 67C, (Fe Ni) 67D, (Fe Cr) 67D

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) {Item 156 of 160} User4269 12sep77

CA07704025148G

Simultaneous SIMS (secondary ion mass spectroscopy), EID (electron impact desorption), and flash-filament investigations of the interaction of gases with a tungsten surface
 Author: Benninghoven, A., Loebach, E., Treitz, N.
 Location: J. Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA066003 Publ Class: J
 Journal: J. Vac. Sci. Technol. Coden: JVSTAL Publ: 72
 Series: 9 Issue: 2 Pages: 600-2
 Identifiers: gas tungsten surface interaction

CA07626159865B

Negative ion production by secondary electrons in a mass spectrometer ion source
 Author: McAllister, I.
 Location: Div. Chem. Phys., CSIRO, Clayton, Aust.
 Section: CA071000 Publ Class: J
 Journal: J. Chem. Soc., Chem. Commun. Coden: JCCCAT
 Publ: 72 Issue: 4 Pages: 245-6
 Identifiers: ion cyclotron resonance spectrum, neg ion mass spectrometer, mass spectrum cyclotron resonance

CA07612063713Z

Surface reactions studied using the static method of secondary ion mass spectroscopy. I. Methods
 Author: Benninghoven, A.
 Location: J. Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA066000, CA067000, CA079000 Publ Class: J
 Journal: Surface Sci. Coden: SUSCAS Publ: 71
 Series: 18 Issue: 2 Pages: 541-62 Language: Ger
 Identifiers: mass spectroscopy surface reaction

CA07602007935W

Mass-spectrometric study of two stages of secondary ions formed in the course of interaction between I^+ ions and propane
 Author: L'Hote, J. P., Abbe, J. Ch., Paulus, J. M., Igersheim, R.
 Location: Lab. Chim. Nucl., Cent. Rech. Nucl., Strasbourg, Fr.
 Section: CA071000 Publ Class: J
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY
 Publ: 71 Series: 7 Issue: 4 Pages: 369-17
 Language: Fr
 Identifiers: propane mass spectrum, iodine propane mass spectrum, secondary ion iodine propane

CA07602007927K

Mass-spectrometric study of two stages of secondary ions formed in the course of collisions between I^+ ions and butane or isobutane
 Author: L'Hote, J. P., Abbe, J. Ch., Paulus, J. M., Igersheim, R.
 Location: Lab. Chim. Nucl., Cent. Rech. Nucl., Strasbourg, Fr.
 Section: CA071000 Publ Class: J
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY
 Publ: 71 Series: 7 Issue: 4 Pages: 319-26
 Language: Fr
 Identifiers: mass spectrum butane isobutane, iodine ion butane collision

DIALOG File3: CA CONDENS 72-76 (CDPR, Am. Chem. Soc.) (Item 148 of 160) User4269 12sep77

CA07814088949K

Surface investigation of solids by the static method of secondary ion mass spectroscopy (SIMS)
 Author: Benninghoven, A.
 Location: I. Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA066005 Pubi Class: J
 Journal: Surface Sci. Coden: SUSCAS Pubi: 73
 Series: 35 Issue: 2 Pages: 427-57
 Identifiers: surface monolayer mass spectroscopy

CA07814088860Z

Investigation of surface layers by SIMS (secondary ion mass spectrometry) and SIMS (secondary ion imaging mass spectrometry)
 Author: Werner, H. W., De Grefte, H. A. M.
 Location: Philips Res. Lab., N. V. Philips' Gloeilampenfabr., Eindhoven, Neth.
 Section: CA066003 Pubi Class: J
 Journal: Surface Sci. Coden: SUSCAS Pubi: 73
 Series: 35 Issue: 2 Pages: 458-72
 Identifiers: surface secondary ion mass spectroscopy

CA07812077179H

Analysis of monomolecular layers of solids by the static method of secondary ion mass spectroscopy (SIMS)
 Author: Benninghoven, A., Loebach, E.
 Location: I. Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA071011, CA079000 Pubi Class: J
 Journal: J. Radioanal. Chem. Coden: JRACBN Pubi: 72
 Series: 12 Issue: 1 Pages: 95-9
 Identifiers: secondary ion mass spectrometry, surface monolayer mass spectroscopy

CA07810063952I

Comparison between quadrupole and magnetic mass spectrometers for use in SIM (secondary ion mass spectrometry)
 Author: Rudenauer, F. G.
 Location: Oesterr. Studienges. Atomenerg. G.m.b.H., Vienna, Austria
 Section: CA071011 Pubi Class: 1
 Journal: Ber. Oesterr. Studienges. Atomenerg. Coden: BOAEBM Pubi: 72 Issue: PH-123, Pages: 8 pp.
 Identifiers: mass spectrometer comparison, secondary ion mass spectrometry, magnetic mass spectrometer, quadrupole mass spectrometer

CA07806035341Z

Secondary-ion collection system for an ion microprobe analyzer of high-mass resolution
 Author: Krohn, V. E., Ringo, G. R.
 Location: Argonne Natl. Lab., Argonne, Ill.
 Section: CA071011 Pubi Class: J
 Journal: Rev. Sci. Instrum. Coden: RSINAK Pubi: 72
 Series: 43 Issue: 12 Pages: 1771-2
 Identifiers: secondary ion collection, ion microprobe analyzer, mass spectrometer ion collection

CA07714094391T

Mass spectrometer for analysis of solids bodies
 Author: Alpat'ev, Yu. S., Dubinskii, I. N., Ol'khovskii, V. L., Pilipenko, A. P., Cherepin, V. T.
 Location: Inst. Metallofiz., Kiev, USSR
 Section: CA071011, CA079000 Pubi Class: J
 Journal: Prih. Tekh. Eksp. Coden: PRTEAU Pubi: 72
 Issue: 3 Pages: 159-60 Language: Russ
 Identifiers: mass spectrometer analysis solid, secondary ion emission solid, elemental analysis solid, layer analysis solid

CA07712081025B

Analysis of solid surfaces and thin films by the static method of secondary ion mass spectroscopy
 Author: Benninghoven, Alfred
 Location: Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA071011, CA079000 Pubi Class: C
 Journal: Ergeb. Hochvakuumtech. Phys. Duenner Schichten Coden: 25UDAI Pubi: 71 Series: 2. Pages: 81-101
 Language: Ger
 Publisher: Wiss. Verlagsges. Address: Stuttgart, Ger
 Avail: Auwaerter, Max
 Identifiers: secondary ion mass spectroscopy, solid surface analysis

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 140 of 160) User4269 12sep77

CA07908046894D

Analysis of stainless steel surfaces by secondary ion mass spectroscopy (SIMS)
 Author: Huber, W. K., Loebach, E.
 Location: Balzers A.-G. fuer Hochvakuumtech. und Duenne Schichten, Balzers, Liechtenstein
 Section: CA071011 Publ Class: J
 Journal: Vacuum Coden: VACUAV Publ: 72 Series: 22
 Issue: 11 Pages: 605-8
 Identifiers: stainless steel surface analysis, mass spectrometer steel surface, hydrocarbon contaminant stainless steel

CA07908036315B

Study on properties of secondary ions by an ion bombardment mass spectrograph
 Author: Kusao, Kenji, Nakamura, Nobuo, Konishi, Fumiya
 Location: Cent. Res. Lab., Matsushita Electr. Ind. Co., Ltd, Osaka, Japan
 Section: CA071011 Publ Class: J
 Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 73
 Series: 21 Issue: 1 Pages: 53-9 Language: Japan
 Identifiers: mass spectrometer ion bombardment

CA07826.66017W

Ion microanalyzer
 Author: Castaing, Raymond, Slodzian, Georges
 Section: CA071011 Publ Class: P
 Journal: Ger. Coden: GWXXAW Publ: 730118 Pages: 10
 pp. Addn. to Ger. 1,498,646.
 Identifiers: ion microanalyzer, imaging microregion, secondary ion mass spectrometer
 Patent No: 1598245 Applic No: 4833 Date: 650209
 Class: G 01n Country: Fr.
 Assignee: Centre National de la Recherche Scientifique, CSF-Compagnie Generale de Telegraphie sans Fil

CA07824152874V

Simple, inexpensive SIMS (secondary ion mass spectroscopy) apparatus
 Author: Schubert, R., Tracy, J. C.
 Location: Bell Lab., Murray Hill, N. J.
 Section: CA071011 Publ Class: J
 Journal: Rev. Sci. Instrum. Coden: RSINAK Publ: 73
 Series: 44 Issue: 4 Pages: 487-91
 Identifiers: secondary ion mass spectroscopy, callium arsenide mass spectrometry, arsenide gallium mass spectrometry cesiated gallium arsenide analysis, aluminum callium arsenide analysis

CA07820131620K

Surface analysis of ion implantation by secondary-emission mass spectroscopy
 Author: Hernandez, R., Vidal, G., Lanusse, P., Slodzian, G.
 Location: Off. Natl. Etud. Rech. Aeroesp... Chatillon-sous-Bagneux, Fr.
 Section: CA079001 Publ Class: J
 Journal: Mem. Sci. Rev. Met. Coden: MRMTAU Publ: 73
 Series: 70 Issue: 1 Pages: 47-52 Language: Fr
 Identifiers: surface ion implanted analysis, mass spectrometry surface analysis, niobium thorium implanted analysis

CA07818115583V

Study of Silicon-oxygen interaction with the static method of secondary ion mass spectroscopy (SIMS)
 Author: Benninghoven, A., Storp, S.
 Location: I. Phys. Inst., Univ. Koeln, Cologne, Ger.
 Section: CA066003, CA071000 Publ Class: J
 Journal: Appl. Phys. Lett. Coden: APPLAB Publ: 73
 Series: 22 Issue: 4 Pages: 170-1
 Identifiers: adsorption oxygen silicon

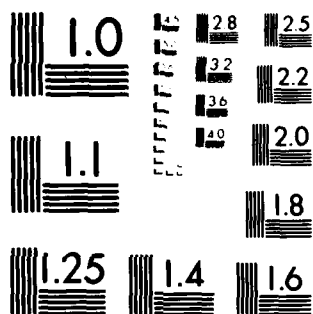
CA07816103512H

Low background secondary ion mass spectrometer with quadrupole analyzer
 Author: Wittmaack, K., Maul, J., Schulz, F.
 Location: Phys. Tech. Abt., Ges. Strahlen- Umweltforsch. m. b. H. Muenchen, Neuherrnberg, Ger.
 Section: CA071011 Publ Class: J
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY Publ: 73 Series: 11 Issue: 1 Pages: 23-35
 Identifiers: secondary ion mass spectrometer, quadrupole analyzer mass spectrometer

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IALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 133 of 160) User:4269 12sep77

CA08002008251E
Apparatus fundamentals and uses of the image-forming
secondary-ion mass spectrometer
Author: Gaukler, K. M.
Location: Inst. Angew. Phys., Univ. Tuebingen, Tuebingen,
Ger.
Section: CA071011. Publ Class: T
Journal: Ber. Kernforschungsanlage Juelich Coden: BKEUAS
Publ: 73 Issue: Conf. 8, Pages: 279-304
Language: Ger
Identifiers: secondary ion mass spectrometer

CA079241407770
Velocity filtering for secondary ion quadrupole mass
spectrometer
Author: Sroubek, Z.
Location: Inst. Radio Eng. Electron., Czech. Acad. Sci.,
Prague, Czech.
Section: CA071011. Publ Class: J
Journal: Rev. Sci. Instrum. Coden: RSINAK Publ: 73
Series: 44 Issue: 9 Pages: 1403-3
Language: Ger
Identifiers: mass spectrometer velocity filter, ion velocity
filter spectrometer

CA07918108965T
Simultaneous SIMS (secondary ion mass spectrometry) and EID
(electron-induced desorption) investigation on the interaction
of oxygen with a tungsten (100) surface
Author: Benninghoven, A., Loeblach, E., Plog, C., Treitz, N.
Location: I. Phys. Inst., Univ. Koeln, Cologne, Ger.
Section: CA068003. Publ Class: J
Journal: Surface Sci. Coden: SUSCAS Publ: 73
Series: 39 Issue: 2 Pages: 397-404
Language: Ger
Identifiers: oxygen interaction tungsten, mass spectrometry
oxygen tungsten, electronic desorption oxygen tungsten,
desorption electronic oxygen tungsten

CA0791406896V
Photo- and Auger electron spectroscopy (ESCA) and
secondary-ion mass spectroscopy (SIMS). Comparison of two
surface analysis methods
Author: Holm, Reimer
Location: Bereich Angew. Phys., Bayer A.-G., Leverkusen,
Ger.
Section: CA079000, CA068000. Publ Class: J
Journal: Metalloberflaechen - Angew. Elektrochem. Coden:
MAEQCO Publ: 73 Series: 27 Issue: 6 Pages: 199-207
Language: Ger
Identifiers: mass spectroscopy ion review, review
photoelectron mass spectroscopy, Auger electron spectroscopy,
secondary ion spectroscopy review, surface analysis review

CA07908046902E
Ionic mass-spectral microscope (secondary-ion mass
spectrometer)
Author: Maifet, Yu. P., Pilipenko, A. P., Cherepin, V. T.
Location: Inst. Metallofiz., Kiev, USSR
Section: CA071011. CA079000. Publ Class: J
Journal: Zavod. Lab. Coden: ZVDLAU Publ: 73 Series:
39 Issue: 4 Pages: 484-7 Language: Russ
Identifiers: secondary ion mass spectrometer, concn
distribution detn

CA07908046897G
Instrumental aspects of secondary ion mass spectrometry and
secondary ion imaging mass spectrometry
Author: Werner, H. W.
Location: Philips Res. Lab., Eindhoven, Meth.
Section: CA071011. Publ Class: J
Journal: Vacuum Coden: VACUAV Publ: 72 Series: 22
Issue: 11 Pages: 613-17
Language: Ger
Identifiers: secondary ion mass spectrometry, titanium oxide
mass spectrum, iron manganese ferrite spectrum

CA07908046895E
Comparison between quadrupole and magnetic mass
spectrometers for use in SIM (secondary ion mass spectrometry)
Author: Ruedensauer, F. G.
Location: Oesterr. Studienges. fuer At. G.m.b.H., Vienna,
Austria
Section: CA071011. Publ Class: J
Journal: Vacuum Coden: VACUAV Publ: 72 Series: 22
Issue: 11 Pages: 609-12
Language: Ger
Identifiers: mass spectrometer comparison, secondary ion
mass spectrometry, graphite secondary mass spectrum, iodine
127 selenium matrix, selenium matrix iodine 127, aluminum
magnesium energy distribution

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 126 of 160) User4269 12sep77

CA08106032776W

Source with secondary ion emission for a mass spectrometer with double focusing
Author: Lototskii, A. G.
Location: State Sci-Res. Des. Inst. Rare Met. Ind., Moscow, USSR

Section: CA079002, CA071000 Pubi Class: J
Journal: Zh. Anal. Khim. Coden: ZAKHAB Pubi: 74
Series: 29 Issue: 3 Pages: 587-90 Language: Russ
Identifiers: ion source mass spectrometer, secondary ion emission mass spectrometer, copper analysis impurities mass spectrometry

CA08104010261T

SIMS (secondary ion mass spectrometer) with a standard quadrupole residual gas analyzer
Author: Thomas, G. E., De Kluijsenaar, E. E.
Location: Philips Res. Lab., Eindhoven, Neth.

Section: CA071011 Pubi Class: J Coden: RSINAK Pubi: 74
Journal: Rev. Sci. Instrum.
Series: 45 Issue: 3 Pages: 457-8
Identifiers: secondary ion mass spectrometry, quadrupole residual gas analyzer

CA08024140873P

Composition profile of ion-plated gold film on copper analyzed by AES (Auger electron spectroscopy) and SIMS (secondary ion mass spectra) during xenon ion bombardment
Author: Narusawa, Tadashi, Komiya, Souji
Location: ULVAC Corp., Chigasaki, Japan

Section: CA079006, CA071000, CA078000 Pubi Class: J
Journal: J. Vac. Sci. Technol. Coden: JVSTAL Pubi: 74
Series: 11 Issue: 1 Pages: 312-16
Identifiers: conon profile sodium gold film, surface analysis gold film, Auger spectroscopy surface analysis, mass spectroscopy surface analysis, secondary ion mass spectroscopy surface, xenon ion bombardment surface analysis

CA08020113904T

Surface oxidation studies of iron using the static method of secondary ion mass spectrometry (SIMS)
Author: Stumpe, E., Benninghoven, A.

Section: CA071011, CA067300, CA055000, CA066000 Pubi Class: J
Journal: Phys. Status Solidi A Coden: PSSABA Pubi: 74
Series: 21 Issue: 2 Pages: 479-86
Identifiers: surface oxidn iron, secondary ion mass spectroscopy

CA08012066411T

Quantitative analysis of light elements (nitrogen, carbon, and oxygen) in sputtered tantalum films by Auger electron spectroscopy and secondary ion mass spectrometry (SIMS)
Author: Morabito, J. M.

Location: Bell Teleph. Lab., Inc., Allentown, Pa.
Section: CA079005 Pubi Class: J
Journal: Anal. Chem. Coden: ANCHAM Pubi: 74
Series: 46 Issue: 2 Pages: 189-96
Identifiers: tantalum film analysis, Auger spectroscopy tantalum film analysis, mass spectrometry tantalum film analysis, spectroscopy tantalum film analysis, nitrogen detn tantalum film analysis, oxygen detn tantalum film analysis, carbon detn tantalum film, sputtered tantalum film analysis

CA08006031656C

Primary oxygen ion implantation effects on depth profiles by secondary ion emission mass spectrometry
Author: Lewis, R. K., Morabito, J. E., Tsai, J. C. C.
Location: Caneca Instrum. Inc., Elmsford, N. Y.

Section: CA071011 Pubi Class: J
Journal: Appl. Phys. Lett. Coden: APPLAS Pubi: 73
Series: 23 Issue: 5 Pages: 260-2
Identifiers: secondary ion mass spectroscopy, oxygen effect secondary emission, surface oxide secondary emission, silicon secondary ion emission, arsenic implanted silicon analysis

CA08002008252F

Physical effects and principal possibilities of application of secondary-ion mass spectrometry SIMS
Author: Beske, M. E.

Location: Zentralinst. Anal. Chem., Kernforschungsanlage Juelich G.m.b.H., Juelich, Ger.
Section: CA071011 Pubi Class: T
Journal: Ber. Kernforschungsanlage Juelich Coden: BERJAS
Pubi: 73 Issue: Conf. 8. Pages: 249-78 Language: Ger
Identifiers: secondary ion mass spectrometry

DIALOG File3: CA CONDENS 72-76 (COPR. An. Chem. Soc.) (Item 119 of 160) User4269 12sep77

CA08122142900Q
Analysis of tungsten surfaces in an imaging mass spectrometer by means of secondary and thermionic ions
Author: Prager, M., Gaukler, K. H.
Location: Inst. Angew. Phys., Univ. Tuebingen, Tuebingen, Ger.
Section: CA071005, CA066000 Publ Class: J
Journal: Appl. Phys. Coden: APHYCC Publ: 74 Series: 4
Issue: 4 Pages: 327-31 Language: Ger
Identifiers: tungsten ion emission, secondary ion emission tungsten, thermionic ion emission tungsten, surface tungsten ion emission

CA08120128130G
Surface investigation by ion scattering and secondary ion mass spectroscopy
Author: Heiland, W.
Location: Max-Planck-Inst. Plasmaphys., EURATOM, Garching, Ger.
Section: CA071000 Publ Class: J Coden: EFAPAO Publ: 74
Journal: Electron. Fis. Apl. Coden: 151-7
Series: 17 Issue: 1-2 Pages: 151-7
Identifiers: review surface scattering spectroscopy, scattering ion surface review, mass spectroscopy surface review

CA08118112679G
Mechanism of simultaneous implantation and sputtering by high energy oxygen ions during secondary ion mass spectroscopy (SIMS) analysis
Author: Tsai, J. C. C., Morabito, J. M.
Location: Bell Telephone Lab., Reading, Pa.
Section: CA071011, CA079000, CA066000 Publ Class: J
Journal: Surface Sci. Coden: SUSCAS Publ: 74
Series: 44 Issue: 1 Pages: 247-52
Identifiers: secondary ion mass spectroscopy, implantation sputtering mass spectroscopy, oxygen bombardment mass spectroscopy

CA0811408534X
Composition profiles of CVD (chemical vapor deposition) platinum and platinum silicide by Auger electron spectroscopy and secondary ion mass spectroscopy
Author: Morabito, J. M., Rand, M. J.
Location: Bell Telephone Lab., Inc., Allentown, Pa.
Section: CA079006, CA071000, CA066000 Publ Class: J
Journal: Thin Solid Films Coden: THNSFAP Publ: 74
Series: 22 Issue: 3 Pages: 293-303
Identifiers: platinum thin film analysis, Auger electron spectroscopy film analysis, mass spectroscopy film analysis,

phosphorus detn platinum film, oxygen detn platinum film, silicon detn platinum film, film analysis impurity, silicide platinum analysis

CA08110057762B
Qualitative and quantitative analysis in secondary-ion mass spectroscopy
Author: Ruedenauer, F. G., Steiger, W., Portenschlag, R.
Location: Physikinst. Reaktorzentr. Seibersdorf, Oesterr. Studienges. Atomenerg. G.m.b.H., Vienna, Austria
Section: CA079000, CA071000 Publ Class: J
Journal: Mikrochim. Acta. Suppl. Coden: MKASAK Publ: 73
Series: 5, pages: 421-51 Language: Ger
Identifiers: review secondary ion mass spectroscopy

CA08110055584W
Investigation of the nickel-dinitrogen oxide system by secondary ion mass spectroscopy
Author: Barber, M., Vickerman, J. C.
Location: Dep. Chem., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA071011, CA078000, CA066000 Publ Class: J
Journal: Chem. Phys. Lett. Coden: CHPLBC Publ: 74
Series: 26 Issue: 2 Pages: 277-80
Identifiers: nitrogen oxide reaction nickel, mass spectrum nickel nitrogen oxide, adsorption nitrogen oxide nickel

CA08108044853G
Material analyses with a new high flux secondary mass spectrometer
Author: Pichlmayer, F.
Location: Forschungszentr. Seibersdorf, Oesterr. Studienges. Atomenerg. G.m.b.H., Seibersdorf, Austria
Section: CA079002, CA071000 Publ Class: J
Journal: Ber. Oesterr. Studienges. Atomenerg. Coden: BOAEBM Publ: 74
Issue: SGAE BER. No. 2242. Pages: 8
Language: Ger
Identifiers: mass spectrometer secondary ion, aluminum analysis, cesium detn silicon carbide, silicon carbide analysis cesium

DIAGLOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 112 of 160) User:4289 12sep77

CA08208050910K

Spectroscopy in the SEM (scanning electron microscope) now includes secondary ion mass analysis
 Author: Pease, David E.
 Location: ETEC Corp., Mountain View, Calif.
 Section: CA079000 Pub Class: J
 Journal: Can. Res. Dev. Coden: CRDVAH Publi: 74
 Series: 7 Issue: 5 Pages: 38-8, 40-1
 Identifiers: review scanning electron microscope spectroscopy, ion analysis electron microscope review, Auger analysis electron microscope review, x ray analysis electron microscope

CA08208050539W

Quadrupole secondary ion mass spectrometry apparatus with enhanced transmission
 Author: Liebl, M.
 Location: Max-Planck-Inst. Plasmaphys., Garching/Munich, Ger.

Section: CA076011 Publi Class: J
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY
 Publi: 74 Series: 15 Issue: 1 Pages: 116-19
 Identifiers: mass spectrometer quadrupole secondary

CA082060308260R

SIMS (secondary ion mass spectrometry) spectra of organic compounds
 Author: Karasek, F. W.
 Location: Dep. Chem., Univ. Waterloo, Waterloo, Ont.
 Section: CA080005, CA076000 Publi Class: J
 Journal: Res./Dev. Coden: REDEAG Publi: 74 Series: 25 Issue: 11 Pages: 42-4, 46
 Identifiers: secondary ion mass spectrometry org

CA08204024956K

Secondary ion emission of solids studied on the mass spectrometer MI-1305
 Author: Magomedov, Sh. A., Chupalaev, Ch. M., Guseinov, A.

Location: Inst. Fiz., Makhachkala, USSR
 Section: CA076011 Publi Class: J
 Journal: Priib. Tekh. Eksp. Coden: PRIEAJ Publi: 74
 Issue: 5 Pages: 234-6 Language: Russ
 Identifiers: secondary ion mass spectroscopy, plasma ion source mass spectrometer

CA08126177180G

Investigation of the sulfur dioxide/silver surface reaction

using secondary ion mass spectrometry
 Author: Barber, M., Sharpe, P., Vickerman, J. C.
 Location: Dep. Chem., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
 Section: CA067003 Publi Class: J
 Journal: Chem. Phys. Lett. Coden: CHPLBC Publi: 74
 Series: 27 Issue: 3 Pages: 439-8
 Identifiers: silver surface reaction sulfur dioxide, mass spectroscopy silver sulfur dioxide

CA08122145303H

Comparison between Auger electron spectroscopy (AES) and secondary ion mass spectroscopy (SIMS) on well characterized single crystal surfaces
 Author: Niehus, H., Bauer, E. G.
 Location: Phys. Inst., Tech. Univ. Clausthal, Clausthal, Ger.

Section: CA079006 Publi Class: J Coden: EFAPAC Publi: 74
 Journal: Electron. Fis. Apl. Coden: EFAPAC Publi: 74
 Series: 17 Issue: 1-2 Pages: 53-6
 Identifiers: Auger spectroscopy crystal surface analysis, electron spectroscopy crystal surface analysis, mass spectroscopy crystal surface analysis, secondary ion mass spectroscopy surface, silver dehn tungsten crystal surface, copper dehn tungsten crystal surface, tungsten crystal surface analysis

CA08122143050Z

Analyses of materials with a new high current secondary ion mass spectrometer
 Author: Pichlmayer, F.
 Location: Desterr, Studienges. Atomeerg. G.m.b.H., Vienna, Austria

Section: CA071011, CA079000 Publi Class: J
 Journal: Vak.-Tech. Coden: VAKTAY Publi: 74 Series: 23 Issue: 4 Pages: 97-103 Language: Ger
 Identifiers: mass spectrometer secondary ion, concn profile dehn mass spectrometer, implantation profile dehn mass spectrometer, ion implantation profile dehn mass spectrometer, cesium implantation profile silicon carbide

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 104 of 160) User4269 12sep77

CA08224164031E
Computer simulation of atomic mixing during ion bombardment
Author: Ishitani, T., Shimizu, R.
Location: Osaka Univ., Suita, Japan
Section: CA076011, CA079000
Journal: Appl. Phys. Coden: APHYCC Publ: 75 Series:
Issue: 2 Pages: 241-8
Identifiers: atomic mixing ion bombardment, surface analysis
ion probe, computer simulation atomic mixing, secondary ion
mass spectroscopy

CA08222145532C
Adsorption of gases studied by secondary ion emission mass
spectrometry
Author: Blaise, G., Bernheim, M.
Location: Lab. Phys. Solides, Univ. Paris-Sud, Orsay, Fr.
Section: CA068003, CA076000
Journal: Surf. Sci. Coden: SUSCAS Publ: 75 Series:
Issue: 1 Pages: 324-43
Identifiers: adsorption gas metal mass spectroscopy, oxygen
adsorption metal mass spectroscopy, nickel adsorption oxygen
mass spectroscopy, alloy adsorption oxygen mass spectroscopy

CA08221137728F
Atomic mixing in ion probe microanalysis
Author: Ishitani, T., Shimizu, R., Tamura, M.
Location: Osaka Univ., Suita, Japan
Section: CA016011, CA079000
Journal: Appl. Phys. Coden: APHYCC Publ: 75 Series:
Issue: 2 Pages: 277-9
Identifiers: atomic mixing ion microprobe, secondary ion
mass spectroscopy

CA08220127985Y
Surface cleanliness of 316 L-N stainless steel studied by
SIMS (secondary ion mass spectrometry) and AES (Auger electron
spectroscopy)
Author: Mathewson, A. G.
Location: CERN, Geneva, Switz.
Section: CA055006
Journal: Vacuum Coden: VACUAV Publ: 74 Series: 24
Issue: 10 Pages: 505-9
Identifiers: steel surface cleaning gas discharge, argon
oxygen stainless steel cleaning

CA08218118474D
Secondary ion mass spectroscopy
Author: Schillalies, Helmut

Section: CA076011 Publ Class: P
Journal: U.S. Coden: USXNAM Publ: 750107 Pages: 4
Identifiers: mass spectrometer secondary ion
Patent No: 3859226 Applic No: P 22 55 302 Date: 721111
Class: 250-282, H 01j Country: Ger.
Assignee: Leybold-Heraeus G.m.b.H. und Co. K.-G.

CA08212079370V
Mass spectrum of secondary ions knocked out from the surface
of gallium arsenide single crystals by argon ions
Author: Koval, A. G., Bobkov, V. V., Klimovskii, Yu. A.,
Strel'chenko, S. S., Shubina, V. V., Lebedev, V. V., Fogel,
Ya. M.
Location: Kharkov. Gos. Univ. im. Gori'kogo, Kharkov, USSR
Section: CA076005 Publ Class: J
Journal: Zh. Tekh. Fiz. Coden: ZTEFA3 Publ: 74
Series: 44 Issue: 12 Pages: 2563-7 Language: Russ
Identifiers: gallium arsenide secondary ion

CA08212076296Q
Removal of a carbon impurity from platinum heated in an
oxygen atmosphere
Author: Rekhova, L. P., Mozgin, V. V., Zvyagintseva, L. M.,
Bondarenko, V. N., Fogel, Ya. M.
Location: Fiz.-Tekh. Inst., Kharkov, USSR
Section: CA056006, CA076000 Publ Class: J
Journal: Zh. Tekh. Fiz. Coden: ZTEFA3 Publ: 74
Series: 44 Issue: 11 Pages: 2378-82 Language: Russ
Identifiers: carbon removal platinum oxygen, secondary
emission platinum bombardment, mass spectrometer secondary ion
emission, ionization carbon platinum bombardment, potassium
emission carbon platinum

CA08210067640V
Direct comparison of Auger, SIMS (secondary ion mass
spectroscopy), and proton resonance profiling for reliability
studies
Author: Weisenberger, W. H., Gray, M., Hubler, G. K.,
Dunning, K. L., Comas, J.
Location: Nav. Res. Lab., Washington, D. C.
Section: CA079001, CA076000 Publ Class: J
Journal: Annu. Procc. Reliab. Phys. (Syno.) Coden: ARLE91
Publ: 74 Series: 12, pages: 7-15
Identifiers: surface analysis depth profiling, Auger
spectroscopy depth profiling, proton resonance depth profiling,
mass spectroscopy depth profiling, secondary ion mass
spectroscopy profiling, ion implantation std prepn, silicon
depth profiling

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 97 of 160) User:4269 12sep77

CA08302020655J

SIMS (secondary ion mass spectrometric) analysis of doped tungsten

Author: Peeler, A., Sweeney, G. G., Castle, P. M.
Location: Phys. Inorg. Chem. Dep., Westinghouse Res. Lab., Pittsburgh, Pa.

Section: CA076014, CA056000, CA075000 PubI Class: J
Journal: Metall. Trans. A Coden: MTABN PubI: 75

Series: 6A Issue: 5 Pages: 991-6
Identifiers: mass spectrometry doped tungsten, potassium doped tungsten filament, aluminum doped tungsten filament, silicon doped tungsten filament, tungsten filament impurity analysis, impurity segregation tungsten recrystn, lamp filament doped tungsten

CA08302020485D

Isotope effect of ion-electron emission

Author: Fehn, Udo
Location: Forschungsstelle Geochem., Tech. Univ. Muenchen, Munich, Ger.

Section: CA078011, CA067000 PubI Class: J
Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMBY

PubI: 74 Series: 15 Issue: 4 Pages: 391-7
Identifiers: mass spectrometer isotope effect, isotope effect secondary emission, electron multiplier mass discrimination, beryllium isotope mass discrimination, aluminum isotope mass discrimination, nickel isotope mass discrimination

CA08302014437Y

Simultaneous observations of partially oxidized surfaces by AES (Auger electron spectroscopy) and SIMS (secondary ion mass spectrometry) for aluminum, silicon, titanium, vanadium, and chromium

Author: Komiya, S., Narusawa, T., Satake, T.
Location: ULVAC Corp., Chigasaki, Japan

Section: CA056005, CA066000 PubI Class: J
Journal: J. Vac. Sci. Technol. Coden: JVSTAL PubI: 75

Series: 12 Issue: 1 Pages: 361-5
Identifiers: surface oxidized metal spectroscopy, aluminum oxidized Auger spectroscopy, silicon oxidized Auger spectroscopy, titanium oxidized Auger spectroscopy, vanadium oxidized mass spectroscopy, chromium oxidized mass spectroscopy, oxygen metal mass spectroscopy

CA08226178795U

Crystal structures and their secondary ion mass spectra

Author: Buhl, R., Preisinger, A.
Location: Balzers A.-G. Hochvakuumtech. Duenne Schichten, Balzers, Liechtenstein

Section: CA075005, CA067000, CA076000, CA078000 PubI Class: J
Journal: Surf. Sci. Coden: SUSCAS PubI: 75 Series: 47 Issue: 1 Pages: 344-57
Identifiers: structure crystal mass spectroscopy, zinc sulfide structure mass spectra, calcium fluoride structure mass spectra, iron aluminate catalyst structure, secondary ion spectroscopy structure

CA08226177080V

Detection of cyanide complexes in deposited gold with SIMS (secondary ion mass spectrometry)

Author: Keil, A.
Location: Inovon-Stroebe K.-G., Birkenfeld, Ger.

Section: CA072006 PubI Class: J
Journal: Galvanotechnik Coden: GVTXAV PubI: 75

Series: 66 Issue: 1 Pages: 9-12 Language: Ger
Identifiers: gold electrodeposition carbon occlusion, cyanide complex gold electrodeposition

CA08226175612W

Study of surface processes on copper-beryllium by combined secondary ion mass spectrometry and Auger electron spectroscopy

Author: Buhl, R., Huber, W. K., Loebach, E.
Location: Balzers, Liechtenstein

Section: CA066003, CA056000 PubI Class: C
Journal: Proc. Int. Conf. Solid Surf., 2nd Coden: 30MDAL

PubI: 74 Pages: 807-10
Publisher: Jpn. J. Appl. Phys. Address: Tokyo, Japan
Avail: Kumagai, Hiroo; Toya, Tomiyuki

Identifiers: copper beryllium surface process

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 90 of 160) User-4289 12sep77

Identifiers: mass spectrometer oxygen ion source

CA08312106772G
Secondary ion microanalysis. Crystalline and temperature effects

Author: Castaing, R.
Location: Lab. Phys. Solides, Univ. Paris-Sud, Orsay, Fr.
Section: CA079000, CA079000, Publ Class: C
Journal: Phys. Aspects Electron. Microsc. Microbeam Anal.
Codon: 3075AD, Publ: 75, Pages: 355-71
Publisher: Wiley, Address: New York, N. Y.
Avail: Siegel, Benjamin M.; Beaman, Donald R.
Identifiers: mass spectroscopy secondary review, review
secondary ion microanalysis, analysis ion microprobe review,
cryst effect microanalysis review, temp effect microanalysis
review

CA06312103688V
SIMS (secondary ion mass spectrometry) studies of the influence of the surface layers on the hydrogen penetration of tantalum foils

Author: Zuechner, M.; Boes, N.
Location: Inst. Phys. Chem., Univ. Muenster, Muenster, Ger.
Section: CA068003, Publ Class: J
Journal: Z. Phys. Chem. (Frankfurt am Main) Codon: ZPCFAX
Publ: 74, Series: 93, Issue: 1-6, Pages: 65-76
Language: Ger
Identifiers: hydrogen penetration tantalum surface
contamination, mass spectroscopy tantalum surface
contamination

CA08310089621N
Analysis of conducting and insulating surfaces by means of secondary ion mass spectrometry (SIMS)

Author: De Paz, M.; Maccio, C.
Location: Ist. Sci. Fis., Univ. Genova, Genova, Italy
Section: CA076011, Publ Class: J
Journal: Z. Naturforsch., A Codon: ZENAAU, Publ: 75, Series: 30a, Issue: 6-7, Pages: 831-4
Identifiers: mass spectroscopy water contamination, copper surface water contamination, lithium fluoride water contamination, fluoride lithium water contamination, potassium iodide water contamination, iodide potassium water contamination

CA05352070355U
Oxygen ion source for the secondary ion mass spectrometer
Author: Nishimura, Hiroshi; Ohno, Jun
Location: Coll. Gen. Educ., Osaka Univ., Toyonaka, Japan
Section: CA076011, Publ Class: J
Journal: Shitsuryo Bunseki Codon: SHIBAK, Publ: 75, Series: 23, Issue: 1, Pages: 9-14

CA08306049720N
Composition profiles of several contaminated and cleaned surfaces of gold thick films on copper plates by Auger electron and secondary ion mass spectroscopy
Author: Komiya, S.; Mizuno, M.; Narusawa, T.; Maeda, M.; Yoshikawa, M.
Location: ULVAC Corp., Chigasaki, Japan
Section: CA071001, Publ Class: C
Journal: Proc. Int. Vac. Congr., 6th Codon: 30MFAR, Publ: 74, Pages: 363-6
Publisher: Jpn. J. Appl. Phys. Address: Tokyo, Japan
Avail: Kumagai, Hiroo; Toya, Tomiyuki
Identifiers: gold clean film copper, Tokamak clean gold surface, fusion plasma clean gold

CA08302021348Y
Thin film compositional analysis. Comparison of techniques
Author: Evans, Charles A., Jr.
Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
Section: CA079001, CA076000, Publ Class: J
Journal: J. Vac. Sci. Technol. Codon: JVTAL, Publ: 75, Series: 12, Issue: 1, Pages: 144-50
Identifiers: thin film analysis, surface analysis, secondary ion mass spectroscopy analysis, Auger spectroscopy film analysis, ion backscattering spectrometry film analysis

DIALOG File: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 83 of 160) User:4269 12sep77

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spectroscopy, semiconductor analysis, tantalum film analysis
dopant, silicon analysis dopant

CA08312107636C

Results on a UHV (ultra-high vacuum) -ion microprobe for
surface and trace analysis
Author: Ruedenauer, F. G., Steiger, W.
Location: SGAE, Vienna, Austria
Section: CA079002; CA076000 Publ Class: C
Journal: Proc. Int. Vac. Congr., 6th Coden: 30HFAR
Publ: 74 Pages: 383-6
Publisher: Jpn. J. Appl. Phys. Address: Tokyo, Japan
Avail: Kunagai, Hiroo; Toya, Tomiyuki
Identifiers: secondary ion mass spectrometer, ion microprobe
analyzer, high vacuum ion microprobe, surface analysis ion
microprobe, trace analysis ion microprobe, corrosion product
analysis microprobe, steel analysis ion microprobe

CA08312107607U

Combination of SIMS (secondary ion mass spectrometry) and
AES (Auger electron spectroscopy) for the analysis of thin
films
Author: Buhl, R., Huber, W. K., Loebach, E.
Location: Balzers, Aktienges. Hochvakuumtech. Duenne
Schichten, Balzers, Liechtenstein
Section: CA079001 Publ Class: C
Journal: Proc. Int. Vac. Congr., 6th Coden: 30HFAR
Publ: 74 Pages: 685-8
Publisher: Jpn. J. Appl. Phys. Address: Tokyo, Japan
Avail: Kunagai, Hiroo; Toya, Tomiyuki
Identifiers: secondary ion mass spectrometry, mass
spectrometry Auger spectroscopy, electron Auger spectroscopy
mass spectrometry, chromium layer analysis, iron chromium
layer analysis, film analysis chromium iron, sputtering Auger
spectroscopy mass spectrometry, aluminum substrate chromium
film analysis

CA08312107025C

SIMS (secondary ion mass spectrometry) study of metals in
function of the primary ion density
Author: Riedel, Miklos, Perovic, Brana
Location: Inst. Nucl. Sci. "Boris Kidric", Belgrade-Vinca,
Yugoslavia
Section: CA076011 Publ Class: J
Journal: Medy. Kem. Poly. Coden: MCKFA3 Publ: 75
Series: 81 Issue: 4 Pages: 188-9 Language: Hung
Identifiers: metal secondary ion yield, mass spectrometry
secondary ion

CA08314125549F

Surface investigation of solids by secondary ion mass
spectrometry (SIMS)
Author: Benninghoven, A.
Location: I. Phys. Inst., Univ. Koeln, Cologne, Ger.
Section: CA079000; CA076000 Publ Class: J
Journal: DEHEMA-Monogr. Coden: DMDGAG
Series: 78 Issue: 1537-1548 Pages: 197-214
Identifiers: review secondary ion mass spectrometry, surface
analysis mass spectrometry review, solid surface mass
spectrometry review, metal monolayer oxidn review, sputter
layer removal review

CA08314119344U

Analysis of 301 stainless steel by SIMS (secondary ion mass
spectrometry)
Author: Schubert, Rudolf
Location: Bell Teleph. Lab., Inc., Columbus, Ohio
Section: CA055008 Publ Class: J
Journal: J. Vac. Sci. Technol. Coden: JVSTAL
Series: 12 Issue: 1 Pages: 505-8
Identifiers: stainless steel surface analysis, mass
spectrometry stainless surface

CA08312107743K

Elemental analysis with Auger electron spectroscopy and
secondary ion mass spectrometry
Author: Morabito, J. M.
Location: Bell Teleph. Lab., Inc., Allentown, Pa.
Section: CA079006; CA076000 Publ Class: C
Journal: Electron Ion Beam Sci. Technol., Int. Conf., 6th
(See-ICEIBD) Coden: 30FNA7 Publ: 74 Pages: 139-52
Publisher: Electrochem. Soc., Inc. Address: Princeton, N.
J
Avail: Bakish, Robert
Identifiers: Auger spectroscopy mass spectrometry, electron
spectroscopy mass spectrometry, mass spectrometry Auger

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 75 of 160) User4269 12sep77

CA08320171548A
Modification of existing apparatus for SIMS (secondary ion mass spectroscopy) in UHV (ultrahigh vacuum)
Author: Douselet, M. G., King, R. M., Parker, E. M. C.
Location: Dep. Phys., City of London Polytech., London, Engl.
Section: CA076011 Pub Class: J
Journal: J. Phys. E Coden: JPSIAE Publ: 75 Series: 8
Issue: 8 Pages: 704-8
Identifiers: mass spectroscopy argon gun, quadrupole residue analyzer mass spectroscopy

CA08320171472Y
Diatomic versus atomic secondary ion emission
Author: Wittmack, K., Staudenmaier, G.
Location: Phys.-Tech. Abt., Ges. Strahlen- und Umweltforsch. m.b.H., Neuherberg, Ger.
Section: CA076005 Pub Class: J
Journal: Appl. Phys. Lett. Coden: APPLAB Publ: 75
Series: 27 Issue: 6 Pages: 318-20
Identifiers: mass spectroscopy secondary emission, metal secondary ion emission, semiconductor secondary ion emission

CA08318157230M
Elemental analysis with Auger electron spectroscopy and secondary ion mass spectrometry
Author: Morabito, J. M.
Location: Bell Teleph. Lab., Inc., Allentown, Pa.
Section: CA079000 Pub Class: C
Journal: Proc. Symp. Mater. Sci. Aspects Thin Film Syst. Sol. Energy Convers. Coden: 311SAB Publ: 74 Issue: PB-239-270 Pages: 99-111
Publisher: NTIS Address: Springfield, Va
Identifiers: review Auger spectroscopy mass spectrometry, Auger electron spectroscopy review, secondary ion mass spectrometry review, surface analysis review, depth profile analysis review

CA08318156637N
Observation of solid surface by secondary ion mass spectrometry
Author: Narusawa, Tadashi, Satake, Tohru, Komiya, Souji
Location: Japan Vac. Eng. Co., Ltd., Chigasaki, Japan
Section: CA076011, CA066000 Pub Class: J
Journal: Shokubai Coden: SHKUAJ Publ: 75 Series: 17
Issue: 2 Pages: 32-9 Language: Japan
Identifiers: surface secondary ion mass spectroscopy, metal surface mass spectroscopy

CA08316140731C
Results on a UHV (ultrahigh vacuum) ion microprobe for surface and trace analysis
Author: Ruedenauer, F. G., Steiger, W.
Location: Oesterr. Studienges. Atomenrg. G.m.b.H., Vienna, Austria
Section: CA076011, CA079000 Pub Class: J
Journal: Ber. Oesterr. Studienges. Atomenrg. Coden: BOAEBM Publ: 74 Issue: SGAE BER.No. 2341, Pages: 383-6
Identifiers: mass spectrometer secondary ion, ion microprobe surface analysis

CA08316140725D
Comparative study of silicon(111), silicon oxide, silicon carbide, and silicon nitride (Si3N4) surfaces by secondary ion mass spectroscopy (SIMS)
Author: Benninghoven, A., Sichtenmann, W., Storp, S.
Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
Section: CA076011 Pub Class: J
Journal: Thin Solid Films Coden: TMSFAP Publ: 75
Series: 28 Issue: 1 Pages: 59-64
Identifiers: mass spectroscopy silicon carbide, nitride silicon mass spectroscopy, oxide silicon mass spectroscopy, carbide silicon mass spectroscopy

CA083161405728
Secondary ion production on surfaces
Author: Higgatsberger, M. J., Klaus, N.
Location: I. Phys. Inst., Univ. Wien, Vienna, Austria
Section: CA076005, CA066000 Pub Class: J
Journal: Acta Phys. Austriaca Coden: APASAP Publ: 75
Series: 41 Issue: 3-4 Pages: 269-79 Language: Ger
Identifiers: secondary ion mass spectroscopy, metal secondary ion emission, surface secondary ion emission

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 68 of 160) User-4269 12sep77

CA084120801255

A preliminary study of pure metal surfaces using Auger electron spectroscopy (AES), x-ray photoelectron spectroscopy (XPS) and secondary ion mass spectroscopy (SIMS)

Author: Gettings, M., Coed, J. E.
Location: Mater. Dev. Div., AERE, Harwell, Engl.
Section: CA066003, CA056000 Publ Class: J
Journal: Surf. Sci. Coden: SUSCAS Publ: 75 Series: 53 Issue: 1 Pages: 636-48

Identifiers: metal surface spectroscopy combination, Auger spectroscopy metal surface, photoelectron spectroscopy metal surface, mass spectroscopy metal surface

CA084100682300

Developments in secondary ion mass spectroscopy and applications to surface studies

Author: Benninghoven, A.
Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
Section: CA076000, CA079000 Publ Class: J
Journal: Surf. Sci. Coden: SUSCAS Publ: 75 Series: 53 Issue: 1 Pages: 596-625

Identifiers: review secondary ion mass spectroscopy

CA08404025438W

In-depth profile detection limits of nitrogen in calcium phosphide (and) nitrogen, oxygen, and fluorine in silicon by SIMS (secondary ion mass spectrometry) and AES (Auger electron spectroscopy)

Author: Tsai, J. C. C., Morabito, J. M.
Location: Bell Teleph. Lab, Inc., Reading, Pa.
Section: CA079006 Publ Class: C
Journal: Ion Implantation Semicond.: Sci. Technol., Proc. Int. Conf., 4th Coden: 31MK44 Publ: 75 Pages: 115-24
Meeting Date: 74

Publisher: Plenum Address: New York, N. Y
Avail: Namba, Susumu
Identifiers: secondary ion mass spectrometry, Auger electron spectroscopy detection limit, nitrogen detection calcium phosphide, gallium phosphide analysis nitrogen, silicon analysis nitrogen oxygen fluorine, oxygen detection silicon, fluorine detection silicon, detection limit spectroscopy, mass spectrometry detection limit

CA08402011398W

Model for the quantitative interpretation of secondary ion mass spectra of pure metals and dilute solid solutions

Author: Gries, W. H., Ruedenauer, F. G.
Location: Forschungszent. Seibersdorf, Oesterr. Studienges. Atomenerg. G.m.b.H., Seibersdorf, Austria
Section: CA076011, CA086000, CA079000 Publ Class: T
Journal: Ber. Oesterr. Studienges. Atomenerg. Coden: BCAEBM Publ: 75 Issue: SGAE BER.No. 2430, Pages: 31 pp.

Identifiers: secondary ion mass spectroscopy, analysis surface dilute alloy, metal secondary ion mass spectroscopy

CA08322187813W

Surface analysis, methods of studying the outer atomic layers of solids

Author: Brongersma, H. M., Meijer, F., Werner, H. W.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA079005, CA086000, CA076000 Publ Class: J
Journal: Philips Tech. Rev. Coden: PTREAN Publ: 74 Series: 34 Issue: 11-12 Pages: 357-69

Identifiers: surface analysis, imaging mass spectrometry, secondary ion mass spectrometry, noble gas ion reflection, ion induced light emission, low energy electron diffraction, Auger electron spectroscopy, x ray photoelectron spectroscopy, electron spectroscopy, chem analysis, UV photoelectron spectroscopy, nickel oxide nickel surface, ellipsometry surface analysis, chromium analysis chromium oxide, nickel crystal sulfur doped, sulfur monolayer nickel surface

CA08406038196R

Computer program for peak identification in secondary ion mass spectra

Author: Stelger, M., Ruedenauer, F. G.
Location: Oesterr. Studienges. Atomenerg. G.m.b.H., Vienna, Austria
Section: CA079002, CA076000 Publ Class: T

Journal: Ber. Oesterr. Studienges. Atomenerg. Coden: BQSECH Publ: 75 Issue: SGAE BER. NO 2421, Pages: 11 pp.

Identifiers: secondary ion mass spectrometry, mass spectrum identification computer program, aluminum mass spectrometry

DIALOG File: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 61 of 160) User:4269 12sep77

CA08414098398T

Study of the mass spectrum of secondary ion-ion emission from the surface of micas on an MI-1305 mass spectrometer
Author: Magomedov, Sh. A., Chupalaev, Ch. M., Guseinov, A. A.

Location: Dagestan. Filial, Inst. Fiz., Makhachkala, USSR
Section: CA076011 Publ Class: C
Journal: Vzaimeistvie At. Chastits Iverd. Telom, Dokl. Vses. Konf., 3rd Coden: 32EKA5 Publ: 74 Series: 1, Pages: 223-5 Language: Russ
Publisher: "Naukova Dumka"
Avail: Cherepin, V. T
Identifiers: mass spectrum mica

CA08414098397S

Use of secondary ion-ion emission for studying the structure of laminated dielectric-semiconductor systems
F. Author: Litovchenko, V. G., Marchenko, R. I., Romanova, G.

Location: Inst. Poluprovodn., Kiev, USSR
Section: CA076011 Publ Class: C
Journal: Vzaimeistvie At. Chastits Iverd. Telom, Dokl. Vses. Konf., 3rd Coden: 32EKA5 Publ: 74 Series: 1, Pages: 215-18 Language: Russ
Publisher: "Naukova Dumka"
Avail: Cherepin, V. T
Identifiers: mass spectrum dielec semiconductor, gamma damage dielec semiconductor, laser damage dielec semiconductor

CA08414098396R

Use of the method of secondary ion-ion emission for studying semiconductor materials
Author: Vasil'ev, M. A., Zhukov, A. G.

Location: Sarat. Gos. Univ., Saratov, USSR
Section: CA076011 Publ Class: C
Journal: Vzaimeistvie At. Chastits Iverd. Telom, Dokl. Vses. Konf., 3rd Coden: 32EKA5 Publ: 74 Series: 1, Pages: 210-12 Language: Russ
Publisher: "Naukova Dumka"
Avail: Cherepin, V. T
Identifiers: semiconductor mass spectroscopy, secondary ion semiconductor spectroscopy

CA08414098300E

Evaluation of concentration-depth profiles by sputtering in SIMS and AES
Author: Hofmann, S.
Location: Inst. Werkstoffwiss., Max-Planck-Inst. Metallforsch., Stuttgart, Ger.
Section: CA076004, CA073000 Publ Class: J

Journal: Appl. Phys. Coden: APHYCC Publ: 76 Series: 9 Issue: 1 Pages: 59-66
Identifiers: concn depth profile sputtering, electron spectroscopy concn depth, mass spectroscopy concn depth

CA08412083185X

Cesium profiles in silicon and in silicon dioxide-silicon double layers as determined by SIMS (secondary ion mass spectrometry) measurements
Author: Hurrele, A., Sixt, G.

Location: Inst. Angew. Festkoerperphys., Fraunhofer-Ges., Freiburg, Ger.
Section: CA076013 Publ Class: J
Journal: Appl. Phys. Coden: APHYCC Publ: 75 Series: 8 Issue: 4 Pages: 293-302
Identifiers: cesium implantation silica silicon

CA08412083178X

A new theory of SIMS at metal surfaces

Author: Cini, Michele
Location: Lab. Ric. Base, Smerprogetti S.p.A., Rome, Italy
Section: CA076011, CA066000 Publ Class: J
Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 54 Issue: 1 Pages: 71-8
Identifiers: mass spectroscopy secondary ion, metal surface atom ionization

CA0841208292W

Determination of concentration in depth profiles of thin films with secondary ion mass spectrometry
Author: Buhl, R., Huber, W. K., Loebach, E.
Location: Hochvakuumtech. Duenne Schichten, Balzers A.-G., Balzers, Ger.

Section: CA076000, CA066000, CA079000 Publ Class: J
Journal: Vak.-Tech. Coden: VAKTAY Publ: 75 Series: 24 Issue: 7 Pages: 189-94 Language: Ger
Identifiers: review secondary ion mass spectroscopy, depth profile detn review, surface analysis mass review, film analysis mass review

DIALOG File: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 53 of 160) User:4289 12sep77

CA08420144289H

Composition of binary alloys by simultaneous SIMS and AES measurements
 Author: Narisawa, T., Satake, T., Komiya, S.
 Location: NIVAC Corp., Chigasaki, Japan
 Section: CA079006 Publ Class: J
 Journal: J. Vac. Sci. Technol. Coden: JVSTAL Publ: 76
 Series: 13 Issue: 1 Pages: 514-18
 Identifiers: alloy analysis Auger mass spectroscopy, work function binary alloy

CA08420144152H

On the use of the Saha-Eggert equation for quantitative SIMS analysis using argon primary ions
 Author: Ruedenauer, F. G., Steiger, W., Werner, H. W.
 Location: Oesterr. Studienges. Atomenerg. Vienna, Austria
 Section: CA079001, CA076000 Publ Class: J
 Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 54 Issue: 3 Pages: 553-60
 Identifiers: quant secondary ion mass spectroscopy, argon ion bombardment mass spectroscopy, correction equation quant mass spectroscopy

CA08420144149N

On the use of the Saha-Eggert equation for quantitative SIMS-analysis using argon primary ions
 Author: Ruedenauer, F. G., Steiger, W., Werner, H.
 Location: Oesterr. Studienges. Atomenerg. G.m.b.H., Vienna, Austria
 Section: CA079001, CA076000 Publ Class: J
 Journal: Ber. Oesterr. Studienges. Atomenerg. Coden: BQEBW Publ: 75 Issue: SGAE 2473, Pages: 6 pp.
 Identifiers: quant secondary ion mass spectroscopy, argon ion bombardment mass spectroscopy, correction equation mass spectroscopy

CA08420144140C

Surface analysis by low energy ion scattering spectroscopy and secondary ion mass spectroscopy
 Author: Nelson, G. C.
 Location: Chem. Mater. Charact. Dep., Sandia Lab., Albuquerque, N. Mex.
 Section: CA079000, CA076000 Publ Class: J
 Journal: SAMPE Q. Coden: SAMQAZ Publ: 76 Series: 7 Issue: 2 Pages: 18-21
 Identifiers: review surface analysis, ion scattering spectroscopy review, mass spectroscopy review, secondary ion mass spectroscopy review, spectroscopy ion scattering review

CA08420143614Y

The application of correlated SIMS and RBS techniques to the measurement of ion implanted range profiles
 Author: Fuller, D., Colligon, J. S., Williams, J. S.
 Location: Dep. Electr. Eng., Univ. Salford, Salford, Engl.
 Section: CA076011 Publ Class: J
 Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 54 Issue: 3 Pages: 647-58
 Identifiers: mass spectroscopy cesium implant, silicon cesium implant profile, aluminum cesium implant profile

CA08420143521R

Mass spectrum of secondary ions knocked out by a beam of argon(+) ions from a copper surface
 Author: Koval, A. G., Bobkov, V. V., Klimovskii, Yu. A., Fogel, Ya. M.
 Location: Khark'k. Gos. Univ. im. Gori'kogo, Kharkov, USSR
 Section: CA076005 Publ Class: J
 Journal: Ukr. Fiz. Zh. (Russ. Ed.) Coden: UFIZAW Publ: 76 Series: 21 Issue: 2 Pages: 236-9 Language: Russ
 Identifiers: copper secondary ion emission, mass spectra copper emission

CA08419134736N

.beta.-Secondary deuterium isotope effect on the fragmentation of an oxetan molecular-ion
 Author: Jones, Guilford, II, McDonnell, Lorraine P.
 Location: Dep. Chem., Boston Univ., Boston, Mass.
 Section: CA022002 Publ Class: J
 Journal: J. Chem. Soc., Chem. Commun. Coden: JCCCAT Publ: 76 Issue: 2 Pages: 36-7
 Identifiers: oxetane methylpropenyl mass spectrum, mass spectrum methylpropenyloxetane isotope, isotope effect methylalkenyloxetane fragmentation, deuterium isotope effect methylalkenyloxetane

CA08416112102A

On the problem of water adsorption on alkali halide cleavage planes, investigated by secondary ion mass spectroscopy
 Author: Estel, J., Moinkes, H., Kaarmann, H., Nahr, H., Wilsch, M.
 Location: Phys. Inst., Univ. Erlangen-Nuernberg, Erlangen, Ger.
 Section: CA066003, CA075000 Publ Class: J
 Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 54 Issue: 2 Pages: 393-418
 Identifiers: alkali halide cleaved adsorption water

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 45 of 160) User-4269 12sep77

CA08426188950A

Empirical quantitation procedures in SIMS

Author: McHugh, J. A.
Location: Knolls At. Power Lab., Gen. Electr. Co., Schenectady, N. Y.
Section: CA076011, CA079000 Publ Class: J
Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. XNBSAV Publ: 75 Series: 427, Pages: 129-34
Identifiers: secondary ion mass spectroscopy, quantitation ion mass spectroscopy

CA08426188050C

Surface analysis by secondary ion mass spectroscopy techniques

Author: Dobrott, Robert D.
Location: Mater. Charact. Lab., Texas Instrum. Inc., Dallas, Tex.
Section: CA076000, CA066000, CA079000 Publ Class: J
Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. XNBSAV Publ: 76 Series: 400-23, Pages: 31-43
Identifiers: review secondary ion mass spectroscopy, surface analysis mass spectroscopy review

CA08426193961R

ESCA and SIMS as new processes to test glass and ceramics

Author: Schillalies, Helmut, Scholze, Horst
Location: Inst. Silicaforsch., Fraunhofer-Ges. Foerderung Angew. Forsch. e.V., Kuerzburg, Ger.
Section: CA057001, CA079000 Publ Class: J
Journal: Tonind.-Ztg. Keram. Rundsch. Publ: 76 Series: 100 Issue: 2 Pages: 48-51
Language: Ger
Identifiers: glass electron ion spectroscopy, ceramic electron ion spectroscopy, ruby electron ion spectroscopy

CA08424172759E

SIMS applications in the investigation of surfaces, thin films and sandwich structures, with special regard to quantitative analyses

Author: Fieber, J.
Location: Phys. Inst., Budapest Tech. Univ., Budapest, Hung.
Section: CA076011, CA079000, CA066000 Publ Class: J
Journal: Thin Solid Films Coden: TMSFAP Publ: 76 Series: 32 Issue: 2 Pages: 295-301
Identifiers: secondary ion mass spectroscopy, quant analysis SIMS

CA08424169804K

Use of ion scattering and secondary ion mass spectroscopy to characterize apparent "adhesive" failure in an adhesive bond

Author: Baum, W. L.
Location: Mech. Surf. Interactions Branch, Air Force Mater. Lab., Wright-Patterson AFB, Ohio
Section: CA065001, CA037000 Publ Class: J
Journal: J. Adhes. Coden: JADNAJ Publ: 76 Series: 7 Issue: 4 Pages: 261-7
Identifiers: adhesive failure detn, ion scattering detn adhesive failure, mass spectroscopy detn adhesive failure

CA08422157126C

Investigation of electrodeposited gold layers with secondary-ion-mass-spectrometry (SIMS)

Author: Keil, Albert
Location: Inovam-Stroebe K.-G., Birkenfeld, Ger.
Section: CA072006 Publ Class: J
Journal: Electr. Contacts, Proc. Annu. Holm Semin. ECHSDG Publ: 75 Series: 21, Pages: 33-6
Identifiers: gold electroplating carbon inclusion

CA08422156182F

Studies of the surface behavior of oxide catalysts by secondary ion mass spectroscopy (SIMS). 1. The surface composition of copper-containing spinel catalysts and their precursors

Author: Barber, M., Sharpe, P. K., Vickerman, J. C.
Location: Dep. Chem., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA087001 Publ Class: J
Journal: J. Catal. Coden: JCTLAS Publ: 76 Series: 41 Issue: 2 Pages: 240-8
Identifiers: oxide catalyst mass spectroscopy, copper spinel catalyst mass spectroscopy, magnesium copper aluminum catalyst

DIALOG File3: CA CONDENS 72-76 (CDPR, Am. Chem. Soc.) (Item 38 of 160) User4269 12sep77

CA08506039825C

High mass resolution secondary ion mass spectrometry
 Author: Williams, Peter, Evans, C. A., Jr.
 Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
 Section: CA076011, CA079000, CA053000 Publ Class: J
 Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. Coden: XNBSAV Publ: 75 Series: 427, Pages: 63-8
 Identifiers: high resolin mass spectroscopy, labradorite high mass resolin spectra

CA08504028272U

Ion microprobe analyzer
 Author: Kanomata, Ichiro, Doi, Hiroshi, Tamura, Hifumi
 Location: Japan
 Section: CA079002, CA076000 Publ Class: P
 Journal: U.S. Coden: USXXAM Publ: 751230 Pages: 13 pp.

Identifiers: ion microprobe analyzer, secondary ion mass spectrometer, iron alloy analysis ion microprobe, silicon detn ion microprobe, aluminum detn ion microprobe, chromium iron alloy analysis
 Patent No: 3930155 Applic No: 73 7911 Date: 730119
 Class: 250-309, H01J Country: Japan.
 Assignee: Hitachi, Ltd.

CA08504028270S

Local chemical analysis of a solid sample
 Author: Castaing, Raimond, Blaise, Guy, Quettier, Roger
 Location: Fr.
 Section: CA079002, CA076000 Publ Class: P
 Journal: Ger. Offen. Coden: GXKXKX Publ: 760115
 Pages: 24 pp.
 Identifiers: secondary ion mass spectrometry, ionization chamber mass spectrometer, local solid analysis mass spectrometry
 Patent No: 2528596 Applic No: 74 22,722 Date: 740628
 Class: G01N Country: Fr.
 Assignee: Agence Nationale de Valorisation de la Recherche

CA08504028097R

Application of SIMS microanalysis techniques to trace element and isotopic studies in geochemistry and cosmochemistry
 Author: Lovering, J. F.
 Location: Dep. Geol., Univ. Melbourne, Parkville, Aust.
 Section: CA079000 Publ Class: J
 Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. Coden: XNBSAV Publ: 75 Series: 427, Pages: 135-78
 Identifiers: review secondary ion mass spectrometry, trace element detn geochem review, isotope ratio detn geochem review

Geochem analysis secondary ion review, cosmochem analysis secondary ion review

CA08502010694Y

Twin modulated molecular beam technique and static secondary ion mass spectrometry applied to catalytic reaction studies and surface analysis
 Author: Cavallini, M., Nencini, G.
 Location: Lab. Ric. Base, SNAV Progetti S.p.A., Monterotondo Italy
 Section: CA067001, CA066000, CA076000 Publ Class: J
 Journal: Rarefied Gas Dyn., Proc. Int. Symp. Coden: PRGDAJ Publ: 74 Series: 9, Vol. 2, Pages: E10, 10 pp.
 Identifiers: silver catalyst surface contamination, surface contamination silver detn, mass spectroscopy silver contamination, mol beam detn silver contamination

CA08426188264H

Some effects limiting SIMS depth profile analysis and methods for improvement
 Author: Lewis, Robert M.
 Location: Camaca Instrum., Inc., Elmsford, N. Y.
 Section: CA076011 Publ Class: J
 Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. Coden: XNBSAV Publ: 76 Series: 400-23, Pages: 45-59
 Identifiers: secondary ion mass spectrometry

CA08426188255F

Charging of insulators by ion bombardment and its minimization for secondary ion mass spectrometry (SIMS) measurements
 Author: Werner, M. W., Morgan, A. E.
 Location: Philips Res. Lab., Eindhoven, Neth.
 Section: CA076011 Publ Class: J
 Journal: J. Appl. Phys. Coden: JAPIAU Publ: 76 Series: 47 Issue: 4 Pages: 1232-42
 Identifiers: mass spectrometry insulator, insulator charging ion bombardment

DIALOG File3: CA CONDENS 72-76 (CDPR. Am. Chem. Soc.) (Item 31 of 160) User4269 12sep77

CA085100715568
Comparison of Auger electron spectroscopy (AES) and secondary ion mass spectrometry (SIMS)

Author: Morabito, J. M.
Location: Bell Telephone Lab., Inc., Allentown, Pa.
Section: CA079000 Publ Class: J
Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. Coden: XNBSAV Publ: 75 Series: 427, Pages: 191-224
Identifiers: review secondary ion mass spectrometry, Auger electron spectroscopic analysis review, surface analysis spectrometry review

CA08508056245F

Electronic optical apparatus for ion scattering spectrometry and mass spectrometry of secondary ions

Location: Ger.
Section: CA079002, CA076000 Publ Class: P
Journal: Fr. Demande Coden: FRXXBL Publ: 751024
Pages: 8 pp.
Identifiers: surface analysis app. spectrometer mass ion scattering, secondary ion mass spectrometer, ion scattering spectrometer surface analysis
Patent No: 2286166 Applic No: P 24 14 221.0 Date: 740325
Class: G01N, H01J Country: Ger.
Assignee: Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V.

CA08508056095G

A high mass resolution capability for the Cameca ion analyzer

Author: Lewis, R. K., Vastel, J.
Location: Cameca Instrum., Inc., Elmsford, N. Y.
Section: CA079002, CA076000 Publ Class: C
Journal: Tutorials Proc., Annu. Conf., Microbeam Anal. Soc., 9th Coden: 32QEAD Publ: 74 Pages: No. 50, 4 pp.
Publisher: Met. Mater. Sci. Dep., Lehigh Univ. Address: Bethlehem, Pa
Identifiers: Cameca ion analyzer high resolution, secondary ion mass spectrometer

CA08508056064W

The use of Auger electron spectroscopy and secondary ion mass spectrometry in the microelectronic technology

Author: Morabito, J. M., Lewis, R. K.
Location: Bell Lab., Allentown, Pa.
Section: CA079000, CA076000 Publ Class: J
Journal: Methods Phenom.: Their Appl. Sci. Technol. Coden: MPTTDK Publ: 75 Series: 1 Issue: Methods Surf. Anal. Pages: 279-328
Identifiers: review spectrometry microelectronic material,

Auger electron spectrometry review, secondary ion mass spectrometry review, electronics analysis spectrometry review

CA08508056045R

SIMS (secondary ion mass spectrometry), a new method for the analysis of surfaces and thin layers
Author: Kucera, Jaroslav
Location: Inst. Sci. Instrum., Czech. Acad. Sci., Brno, Czech.

Section: CA079000, CA076000 Publ Class: J
Journal: Chem. Listy Coden: CHLSAC Publ: 75 Series: 69 Issue: 11 Pages: 1142-7 Language: Czech
Identifiers: review surface analysis mass spectrometry, secondary ion mass spectrometry review, thin layer mass spectrometry review, layer analysis mass spectrometry review

CA08508055304N

Surface ionization - "plasma" in disguise

Author: Coles, John N.
Location: Ion-Microprobe Unit, Nat. Environ. Res. Council, Cambridge, Engl.
Section: CA076005 Publ Class: J
Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 55 Issue: 2 Pages: 721-4
Identifiers: surface ionization plasma secondary emission, mass spectrometry secondary ion

CA085080540383P

A comparison of the techniques for silicon surface analysis

Author: Evans, Charles A., Jr.
Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
Section: CA079006, CA066000 Publ Class: J
Journal: Natl. Bur. Stand. (U. S.), Spec. Publ. Coden: XNBSAV Publ: 76 Series: 400-23, Pages: 219-32
Identifiers: silicon surface analysis spectrometry, Auger electron spectrometry silicon analysis, ESCA silicon surface analysis, ion scattering spectrometry silicon analysis, backscattering spectrometry silicon analysis, secondary ion mass spectrometry silicon, mass spectrometry silicon surface analysis

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 24 of 160) User4269 12sep77

CA08512086726F

Ion scattering spectrometry and secondary ion mass spectroscopy: two complimentary techniques
 Author: Leys, J. A., McKinney, J. T.
 Location: Cent. Res. Lab., 3M Co., St. Paul, Minn.
 Section: CA079006 Publ Class: C
 Journal: Tutorial Proc., Ann. Conf. - Microbeam Anal. Soc., 9th Coden: 32QE40 Publ: 74 Pages: No. 52, 5 pp.
 Publisher: Met. Mater. Sci. Dep., Lehigh Univ. Address: Bethlehem, Pa
 Identifiers: surface analysis spectrometry, copper foil chromate treated analysis, aluminum surface analysis spectrometry, cobalt oxide analysis spectrometry, mass spectroscopy surface analysis, secondary ion mass spectroscopy surface, ion scattering spectrometry surface analysis

CA08512086619Y

Use of an electron gun in the study of insulating materials by means of an ionic analyzer
 Author: Blanchard, B., Carrier, P., Milleret, N., Manquerite, J. L., Rocco, J. C.
 Location: CEN, Grenoble, Fr.
 Section: CA079002, CA076000, CA077000 Publ Class: J
 Journal: Analysis Coden: ANLSCY Publ: 76 Series: 4 Issue: 4 Pages: 180-4 Language: Fr
 Identifiers: insulating material analysis mass spectrometry, surface charge compensation insulating material, silica analysis mass spectroscopy, garnet analysis mass spectroscopy, electron gun surface charge neutralization, secondary ion mass spectroscopy surface

CA08512086601M

Study of electron beam effects on surface using x-ray photoelectron spectroscopy (XPS) and secondary ion mass spectroscopy (SIMS)
 Author: Gettings, M., Coad, J. P.
 Location: AERE, U. K. At. Energy Auth., Harwell/Oxfordshire, Engl.
 Section: CA079001 Publ Class: T
 Journal: U. K. At. Energy Res. Establ., Rep. Coden: UKRGAL Publ: 76 Issur: AERE-R 8288, Pages: 10 pp.
 Identifiers: electron beam effect surface analysis, x ray photoelectron spectroscopy, secondary ion mass spectroscopy, Auger electron spectroscopy

CA08512086560X

Surface analysis by low-energy ion scattering spectroscopy and secondary ion mass spectroscopy
 Author: Nelson, G. C.
 Location: Sandia Lab., Albuquerque, N. Mex.

Section: CA079000, CA056000, CA066000, CA076000 Publ Class: J
 Journal: Natl. SAMPE Tech. Conf. Coden: SAMPCZ Publ: 75 Series: 7 Issue: Mater. Rev. '75 Pages: 364-73
 Identifiers: review ion scattering mass spectroscopy, surface analysis spectroscopy review

CA08512085923F

Analysis of implanted layers by means of secondary ion mass spectrometry (SIMS)
 Author: Werner, Helmut W.
 Location: Philips Res. Lab., Eindhoven, Meth.
 Section: CA076000, CA079000 Publ Class: J
 Journal: Acta Electron. Coden: ACELAZ Publ: 76 Series: 19 Issue: 1 Pages: 53-66
 Identifiers: review implanted semiconductor profiling, secondary ion spectroscopy implanted review, mass spectrometry implanted review

CA08512081719W

Determination of carbon and nitrogen profiles in type 316 stainless steel using a secondary ion mass spectrometer
 Author: Bagnall, C., Sweeney, G. G., Shiels, S. A.
 Location: Adv. React. Div., Westinghouse Electr. Corp., Madison, Pa.
 Section: CA055008 Publ Class: J
 Journal: Microstruct. Sci. Coden: MSSCDJ Publ: 75 Series: 3, Pt. B, Pages: 601-21
 Identifiers: stainless steel interstitial distribution, carbon distribution stainless steel, nitrogen distribution stainless steel, sodium carburization stainless steel

CA08510071590H

Evaluation of the local thermal equilibrium model for quantitative secondary ion mass spectrometric analysis
 Author: Simons, David S., Baker, Judith E., Evans, Charles A., Jr.
 Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
 Section: CA079001, CA076000 Publ Class: J
 Journal: Anal. Chem. Coden: ANCHAM Publ: 76 Series: 48 Issue: 9 Pages: 1341-8
 Identifiers: thermal equilibrium mass spectroscopy, equal local thermal mass spectroscopy, secondary ion mass spectroscopy quant, computer program mass spectroscopy

Dialog File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 16 of 160) User:4269 12sep77

CA08518135710G
Simultaneous ion-scattering and secondary-ion mass spectrometry

Author: Vasile, Michael J., Malm, Donald L.
Location: Bell Lab., Murray Hill, N. J.
Section: CA076011, CA079000 Pub Class: J
Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJUMBY
Publ: 76 Series: 21 Issue: 1-2 Pages: 145-57
Identifiers: spectrometer ion scattering mass spectroscopy

CA08518135524Z

Cluster-induced secondary electron emission
Author: Staudenmaier, G., Moller, W. O., Liebl, H.
Location: Max-Planck Inst. Plasmaphys., Garching/Munich, Ger.

Section: CA076005 Pub Class: J
Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJUMBY
Publ: 76 Series: 21 Issue: 1-2 Pages: 103-12
Identifiers: cluster ion secondary electron emission, mass spectroscopy cluster ion

CA08518135083E

Secondary-ion mass spectrometry, a new process for solid state analysis
Author: Maul, Johann L.
Location: Ger.

Section: CA076000, CA079000, CA080000 Pub Class: J
Journal: Chem.-Tech. (Heidelberg) Coden: CMTKAT
Publ: 76 Series: 5 Issue: 8 Pages: 317-19 Language: Ger
Identifiers: review secondary ion mass spectroscopy

CA08518128997C

Studies on copper-nickel and copper-aluminum systems with secondary ion mass spectrometry (SIMS)

Author: Rodriguez-Murcia, H., Beske, H. E.
Location: Zentralabt. Chem. Anal., Kernforschungsanlage Juelich G.m.b.H., Juelich, Ger.
Section: CA058007, CA076000 Pub Class: T
Journal: Ber. Kernforschungsanlage Juelich Coden: BKEJAS
Publ: 76 Issue: Juli-1992, Pages: 92 pp. Language: Ger
Identifiers: copper aluminum ionization ratio, nickel copper ionization ratio, secondary ion mass spectroscopy

CA08518115487M

The oxidation of aluminum studied by SIMS at low energies
Author: Dawson, P. H.
Location: Div. Phys., Natl. Res. Council, Canada, Ottawa, Ont.
Section: CA076011, CA066000 Pub Class: J

Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 57 Issue: 1 Pages: 229-40
Identifiers: aluminum oxid mass spectroscopy

CA08518115482F

A study of germanium/silicon dioxide MIS structures by the use of secondary ion mass spectrometry
Author: Wang, K. L., Storms, H. A.
Location: Gen. Electr. Corp. Res. Dev. Cent., Schenectady, N. Y.

Section: CA076011 Pub Class: J
Journal: J. Appl. Phys. Coden: JAPIAU
Series: 47 Issue: 6 Pages: 2539-49 Publ: 76
Identifiers: mass spectroscopy MIS structure, germanium silica structure mass spectroscopy

CA08514103203C

Methods for obtaining in-depth data in surface analysis
Author: Holm, R., Storp, S.

Location: Ber. Angew. Phys., Bayer A.-G., Leverkusen, Ger.
Section: CA079000 Pub Class: J
Journal: Vak.-Tech. Coden: VAKTAY
Publ: 76 Series: 25 Issue: 3 Pages: 73-8 Language: Ger
Identifiers: depth profile surface analysis review, Auger electron spectroscopy depth review, secondary ion mass spectrometry review, ESCA depth profile review, sputtering depth analysis review

CA08514099305T

Measurement of momentum accommodation coefficients on surfaces characterized by Auger spectroscopy, SIMS and LEED
Author: Seidl, M., Steinheil, E.

Location: Dornier Syst. G.m.b.H., Friedrichshafen, Ger.
Section: CA065001, CA047000, CA066000, CA076000 Pub Class: J

Journal: Rarefied Gas Dyn., Proc. Int. Symp. Coden: PRGDJ Pub: 74 Series: 9, Vol. 2, Pages: E9, 12 pp.
Identifiers: accommodation coeff detn app, beam atomic mol scattering surface, momentum transfer atomic beam surface, helium momentum accommodation coeff, shellac accommodation coeff helium, copper accommodation coeff helium, tungsten accommodation coeff helium, asphire accommodation coeff helium, glass accommodation coeff helium, gold accommodation coeff helium

Dialog File: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 9 of 160) User:4269 12sep77

- CA08522171057H
Secondary ion mass spectrometry. (II). Fundamental problems in the application of SIMS
Author: Okano, Jun
Location: Coll. Gen. Educ., Osaka Univ., Toyonaka, Japan
Section: CA079000, CA076000 Publ Class: J
Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 76
Series: 24 Issue: 1 Pages: 1-18 Language: Japan
Identifiers: secondary ion mass spectrometry review, analysis mass spectrometry review
- CA08522169792A
New method for studying processes occurring during deposition of thin-film coatings on a metallic substrate by evaporation in vacuo
Author: Aramienkov, A. D., Fogel, Ya. M.
Location: USSR
Section: CA075001, CA076000 Publ Class: J
Journal: Vopr. At. Nauki Tekh., Ser.: Fiz. Vys. Energ. At. Yadra Coden: VANTDX Publ: 73 Series: 7, Pages: 98-9 Language: Russ
Identifiers: film deposition vacuum metal, mass spectroscopy film deposition, secondary ion study film deposition
- CA08522164957Y
Surface analysis of 6061 and 7050 aluminum alloys after conditioning by chemical treatment
Author: McDevitt, Neil T., Baun, William L., Solomon, James S.
Location: Air Force Mater. Lab., Air Force Syst. Command, Wright-Patterson AFB, Ohio
Section: CA056005, CA079000, CA073000 Publ Class: T
Journal: U. S. Air Force Syst. Command, Air Force Mater. Lab., Tech. Rep., AFML Coden: XAMFAD Publ: 76 Issue: AFML-TR-76-13, Pages: 37 pp.
Identifiers: aluminum alloy surface compn, Auger electron spectroscopy aluminum, ion scattering spectroscopy aluminum, secondary ion mass spectroscopy aluminum
- CA085201535088
Some fundamental factors in quantitative analysis by ion microanalyzer
Author: Someno, Mayumi, Saito, Hiroshi, Kobayashi, Mutsuhiko
Location: Fac. Eng., Tokyo Inst. Technol., Tokyo, Japan
Section: CA079006, CA076000 Publ Class: J
Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 76
Series: 24 Issue: 2 Pages: 173-80 Language: Japan
Identifiers: deuterium detn titanium iron alloy, titanium iron alloy analysis deuterium, secondary ion energy microanalysis, mass spectroscopy secondary ion
- CA08520152725H
On the abundance of molecular ions in secondary ion mass spectrometry
Author: Morgan, A. E., Werner, H. M.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA076011 Publ Class: J
Journal: Appl. Phys. Coden: APHYCC Publ: 76 Series: 11 Issue: 2 Pages: 193-5
Identifiers: mass spectroscopy mol ion, secondary ion mass spectroscopy, oxygen mass spectroscopy mol ion
- CA08520152722E
Surface analysis of insulating materials by secondary ion mass spectrometry (SIMS)
Author: Mueller, G.
Location: Bayer A.-G., Krefeld-Uerdingen, Ger.
Section: CA076011, CA079000 Publ Class: J
Journal: Appl. Phys. Coden: APHYCC Publ: 76 Series: 10 Issue: 4 Pages: 317-24
Identifiers: mass spectrometry secondary ion, electron charge compensation mass spectrometry, insulator mass spectrometry change, titania mass spectrometry ion, oxide titanium mass spectrometry, surface mass spectrometry change
- CA08518136696U
Quantitative interpretation of mass spectra of secondary ion emission in a determination of the composition of solids
Author: Lototskii, A. G., Gimelfarb, F. A.
Location: State Sci.-Res. Des. Inst. Rare Met. Ind., Moscow, USSR
Section: CA079006, CA076000 Publ Class: J
Journal: Zh. Anal. Khim. Coden: ZAKHAB Publ: 76 Series: 31 Issue: 3 Pages: 433-9 Language: Russ
Identifiers: mass spectroscopy quant analysis, secondary ion mass spectroscopy, metal analysis mass spectroscopy, dielec analysis mass spectroscopy, semiconductor analysis mass spectroscopy

Print 36/2/1-160

DIALOG File3: CA CONDENS 72-76 (COPR. Am. Chem. Soc.) (Item 1 of 160) User4269 12sep77

CA085262008800

Secondary ion mass spectrometry (SIMS). A technique for studying surface reactivity

Author: Barber, M., Vickerman, J. C.
Location: Univ. Manchester Inst. Sci. Technol., Manchester, Engl.Section: CA076000, CA066000 Publ Class: J
Journal: Surf. Defect Prop. Solids Coden: SPSPCW Publ: 76
Series: 5, Pages: 162-88

Identifiers: review mass spectrometry surface reactivity, secondary ion mass spectrometry

Author: Queirolo, G.

Location: SGS-ATES, Milan, Italy

Section: CA076000 Publ Class: J

Journal: Energ. Nucl. (Milan)

Series: 23 Issue: 6 Pages: 332-45

Codon: ENNLAV Publ: 76

Language: Ital

Identifiers: review microelectronics Auger mass spectrometry

, electronics Auger mass spectrometry review

CA08525193065M

Secondary-ion emission of amino acids

Author: Benninghoven, A., Jaspers, D., Sichtermann, W.

Location: Phys. Inst., Univ. Muenster, Muenster, Ger.

Section: CA034002, CA022000 Publ Class: J

Journal: Appl. Phys. Coden: APHYCC Publ: 76 Series: 11

Issue: 1 Pages: 35-9

Identifiers: amino acid secondary ion emission, mass spectrometry secondary ion amino acid

CA08524185523U

Detection of SiO₂ ions from silica-silicon interface by means of SIMS

Author: Nakamura, Kazumitsu, Hirose, Hiroshi, Shibata, Atsushi, Tamura, HiFumi

Location: Naka Works, Hitachi Ltd., Katsuta, Japan

Section: CA076011 Publ Class: J

Journal: Jpn. J. Appl. Phys. Coden: JUAPAS Publ: 76

Series: 15 Issue: 10 Pages: 2007-8

Identifiers: silica silicon interface ion, mass spectrometry silica interface

CA08524185147Z

Auger and SIMS spectrometry in microelectronics

CA08522171124C

See the surface in another 'light'

Author: Riach, Gerald E., Riggs, William M.

Location: Phys. Electron. Ind. Inc., Eden Prairie, Minn.

Section: CA079005, CA073000, CA076000 Publ Class: J

Journal: Ind. Res. Coden: IORSAC Publ: 76 Series: 18

Issue: 9 Pages: 74-8

Identifiers: surface analysis multiple spectrometric, ESCA

Auger electron spectrometry, scanning Auger microprobe ESCA,

UV photoelectron spectrometry ESCA, secondary ion mass

spectrometry, magnesium fluoride conversion oxide, molybdenum

oxide catalyst poisoning

23

DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (CDPR. Am. Chem. Soc.) (Item 66 of 71) User:4289 12sep77

CA08604025614S

New method to analyze surface and solid compositions using a molecular beam

Author: Marechal, M., Devienne, M. F.

Location: Soc. Veeco, Gometz-le-Châtel, Fr.

Section: CA079006, CA076XXX Publ Class: JOURNAL

Journal: Vide Coden: VIDEAA Publ: 74 Series: 171,

Suppl. Issue: Iron, Ioniques, Congr. Int. AVISEM, 4th, 1974

Pages: 248-55 Language: Fr

Identifiers: mol beam surface solid analysis, aluminum alloy film mass spectrometer, platinum ribbon mass spectrometer, secondary ion emission mass spectroscopy

CA08602011482K

Use of a MKH-1303 mass spectrometer for analyzing solid substances by secondary ionic emission

Author: Larin, N. V., Andon, V. M.

Location: USSR

Section: CA079006, CA076XXX Publ Class: JOURNAL

Journal: Tr. Khim. Khim. Tekhnol. Coden: TKMTAE Publ:

75 Issue: 1 Pages: 35-7 Language: Russ

Identifiers: secondary ion mass spectrometry, mass spectroscopy silicon iron magnesium, silicon analysis mass spectrometry, iron analysis mass spectrometry, magnesium analysis mass spectrometry

CA08602011173K

Applications of ISS/SIMS (ion scattering spectrometry/secondary ion mass spectrometry) for surface analysis

Author: Kasha, Lawrence

Location: Scanning Electron Anal. Lab., Inc., Los Angeles, Calif.

Section: CA076011, CA079XXX, CA066XXX Publ Class: CONF

Journal: Proc. - Adv. Tech. Failure Anal. Symp. Coden:

3460AD Publ: 76 Pages: 13-17

Publisher: IEEE Address: New York, N. Y.

Identifiers: electronics surface analysis, ion scattering surface analysis, mass spectrometry secondary ion, circuit semiconductor surface analysis

CA08602009677J

Ion-solid interactions. Application of Auger spectrometry and secondary ion spectrometry to study specimens undergoing thermal heating cycles and hydrogen plasma treatment

Author: Dagoury, G., Vigner, D., Rousseau, J.

Location: Div. Chim., CEN-Saclay, Gif-sur-Yvette, Fr.

Section: CA071001, CA066XXX Publ Class: JOURNAL

Journal: Vide Coden: VIDEAA Publ: 76 Series: 182,

Suppl. Issue: sation Cathod. See Appl., 2nd, 1976 Pages:

205-17 Language: Fr
Identifiers: ion solid interaction plasma, Auger spectrometry hydrogen plasma, thermal cycle hydrogen plasma, tokamak plasma spectrometry, wall effect fusion reactor

CA08602008748W

Secondary ion mass spectrometry study of solid state diffusion

Author: Seran, J. J.

Location: Univ. Paris-6, Paris, Fr.

Section: CA065001 Publ Class: TECH REP

Journal: Report Coden: E2REPU Publ: 76 Issue:

CEA-R-4717, Pages: 74 pp. Language: Fr

Citation: INIS Atomindex 1976, 7(17), Abstr. No. 259817

Avail: INIS

Identifiers: secondary ion mass spectrometry diffusion, nickel diffusion copper mass spectroscopy

CA08602005933S

Secondary-emission mass spectrometric determination of the microstructure of fluorine-containing polymers
Author: Tantsyrev, G. D., Kleimenov, N. A., Pavolotskaya, M. I., Bravaya, N. M.

Location: Inst. Khim. Fiz., Moscow, USSR

Section: CA035005 Publ Class: JOURNAL

Journal: Vysokomol. Soedin., Ser. A Coden: VYSAAF

Publ: 76 Series: 18 Issue: 10 Pages: 2218-22

Language: Russ

Identifiers: secondary ion mass spectrometry, structure fluorine polymer, polychlorotrifluoroethylene structure mass spectroscopy, polyvinylidene fluoride structure, ethylene tetrafluoroethylene copolymer structure

DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 59 of 71) User-4269 12sep77

CA08610062568A

A study of barrier film growth on aluminum in solutions of film-promoting and aggressive ions using secondary ion mass spectrometry

Author: Abd Rabbo, M. F., Richardson, J. A., Wood, G. C.
Location: Corrosion Protect. Cent., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA072004, CA076XXX Publ Class: JOURNALL
Journal: Corros. Sci. Coden: CRPSAA
Series: 16 Issue: 10 Pages: 689-702 Publ: 76
Identifiers: aluminum barrier film growth, mass spectroscopy alumina film, phosphate aluminum barrier film, chromate aluminum barrier film

CA08610062167U

Ion microprobe studies of surface effects of materials related to fission and fusion reactors

Author: Johnson, Carl E., Steidl, David V.
Location: Chem. Eng. Div., Argonne Natl. Lab., Argonne, Ill.
Section: CA071001 Publ Class: JOURNAL
Journal: Adv. Chem. Ser. Coden: ADCSAJ
Series: 158 Issue: Radiat. Eff. Solid Surf., Symp., 1975
Pages: 349-65
Identifiers: ion microprobe fusion reactor material, fuel cladding ion microprobe

CA08608050256J

Ion microprobe mass analyzer

Author: Stuckey, Wayne
Location: Aerosp. Corp., El Segundo, Calif.
Section: CA079006 Publ Class: CONF PROC
Journal: Proc. - Adv. Tech. Failure Anal. Symp. Coden: 34GQAD
Publ: 76 Pages: 10-12
Publisher: IEEE Address: New York, N. Y.
Identifiers: ion microprobe mass analyzer, microprobe ion mass analyzer, electronics analysis ion microprobe, secondary ion mass spectra alumina, relay depth profile analysis

CA086080502428

Some applications of ion microprobe analysis to problems in semiconductor devices

Author: Doi, Hiroshi, Kanomata, Ichiro, Sakudo, Noriyuki
Location: Cent. Res. Lab. Hitachi Ltd., Tokyo, Japan
Section: CA079006, CA076XXX Publ Class: JOURNAL
Journal: Proc. Conf. Solid State Devices Coden: PCSDD8
Publ: 75 Series: 7, Pages: 71-8
Identifiers: silicon transistor analysis ion microprobe, secondary ion mass spectroscopy microprobe, oxygen reagent ion microprobe analysis, molybdenum analysis ion microprobe, aluminum analysis ion microprobe, epitaxial silicon analysis ion

microprobe, arsenic detn silicon, boron detn silicon, phosphorus detn silicon, antimony detn silicon

CA08608050159E

New possibilities in the treatment of surface and thin-layer problems

Author: Seidl, Max, Plog, Carsten, Schenker, Werner
Location: Donier Syst. G.m.b.H., Friedrichshafen, Ger.
Section: CA079001, CA052XXX Publ Class: JOURNAL
Journal: Metalloberflaeche Coden: MDEAV
Series: 30 Issue: 10 Pages: 479-83 Language: Ger
Identifiers: Auger electron spectroscopic analysis, scanning Auger microprobe analysis, secondary ion mass spectroscopic analysis, cyanide detection gold, vanadium oxide detection solar absorber, beryllium oxide detection weld, copper oxide detection weld, surface treatment analysis spectroscopy, alloy surface analysis spectroscopy

CA086080501498

Microanalysis - past, present, future

Author: Wittry, David B.
Location: Dep. Mater. Sci., Univ. South. California, Los Angeles, Calif.
Section: CA079000, CA073XXX Publ Class: CONF PROC
Journal: Proc. - Adv. Tech. Failure Anal. Symp. Coden: 34GQAD
Publ: 76 Pages: 1-8
Publisher: IEEE Address: New York, N. Y.

Identifiers: review microanalytical spectroscopy, secondary ion mass spectroscopy review, x ray fluorescence spectroscopy review, electron microprobe analysis review, Auger electron spectroscopy review, transmission electron microscopy review, ESCA review

CA08608050148A

New physical methods of material microanalysis

Author: Fuchs, E.
Location: Anal. Abt., Siemens A.-G., Munich, Ger.
Section: CA079000, CA075XXX, CA076XXX Publ Class: JOURNAL
Journal: Phys. Unserer Zeit Coden: PHUZH
Series: 7 Issue: 5 Pages: 136-46 Language: Ger
Identifiers: review phys microanalysis electronics technol., x ray microanalysis review, atomic absorption microanalysis review, mass spectroscopy microanalysis review, neutron activation microanalysis review, autoradiog microanalysis review, electron microprobe analysis review, secondary ion mass spectroscopy review

DIALOG File4: CA CONDENS/CASIA 77- /VOLB7(08) (CDPR. Am. Chem. Soc.) (Item 51 of 71) User:4269 12sep77

CA08612082513G

Study of the oxidation of gallium arsenide by secondary ion mass spectrometry
 Author: Koval, A. G., Mal'nikov, V. N., Man'kovskii, N. K., Strel'chenko, S. S., Matyash, A. A., Lebedev, V. V.
 Location: USSR
 Section: CA076013 Pubi Class: JOURNAL
 Journal: V sb., Vzaimeidistvie Atom. Chastits s Iverd. Telom. IV Vses. Konf., 1976 Coden: D4JOU5 Pubi: 76
 Issue: Ch. 3 Pages: 33-6 Language: Russ
 Citation: Ref. Zh., Khim. 1976, Abstr. No. 228942
 Identifiers: gallium arsenide oxida mass spectrometry

CA08612077323R

A study of the effects of inhibitive and aggressive ions on oxide-coated aluminum using secondary ion mass spectrometry
 Author: Abd Rabbo, M. F., Richardson, J. A., Wood, G. C., Jackson, C. K.
 Location: Corrosion Protect. Cent., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
 Section: CA056008, CA076XXX
 Journal: Corros. Sci. Coden: CRRSAA Pubi: 76
 Series: 16 Issue: 10 Pages: 677-87
 Identifiers: aluminum oxide coated corrosion, mass spectroscopy corrosion aluminum

CA08610064439H

Detection of aluminum and magnesium contamination in sputtered platinum films by Auger electron spectroscopy and secondary ion mass spectrometry
 Author: Andrews, J. M., Morabito, J. M.
 Location: Bell Teleph. Lab. Inc., Murray Hill, N. J.
 Section: CA076013 Pubi Class: JOURNAL
 Journal: Thin Solid Films Coden: TMSFAP Pubi: 76
 Series: 37 Issue: 3 Pages: 357-72
 Identifiers: platinum sputtered film contamination, magnesium contamination platinum film, aluminum contamination platinum film, integrated circuit platinum film, Auger electron spectroscopy platinum film, mass spectroscopy platinum film

CA08610064372H

A simple electronic aperture for rastered-beam depth profiles
 Author: Williams, Peter, Evans, Charles A., Jr.
 Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
 Section: CA076011 Pubi Class: JOURNAL
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY
 Pubi: 76 Series: 22 Issue: 3-4 Pages: 327-31
 Identifiers: mass spectroscopy depth profiling, spectroscopy ion scattering depth profiling

CA08610064376K

Study of an iodine discharge in a duoplasmatron
 Author: Liebl, H., Harrison, W. W.
 Location: Max-Planck-Inst. Plasma Phys., Garching, Ger.
 Section: CA076011 Pubi Class: JOURNAL
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMSBY
 Pubi: 76 Series: 22 Issue: 3-4 Pages: 237-46
 Identifiers: iodine discharge duoplasmatron mass spectroscopy, secondary ion mass spectroscopy iodine

CA08610064374H

A mass and energy spectrometer for secondary ion analysis
 Author: Bayly, A. R., McDonald, R. J.
 Location: Dep. Phys., Aust. Natl. Univ., Canberra, Aust.
 Section: CA076011 Pubi Class: JOURNAL
 Journal: J. Phys. E Coden: JPSIAE Pubi: 77 Series: 10 Issue: 1 Pages: 79-85
 Identifiers: mass spectrometer secondary ion analysis, energy spectrometer secondary ion analysis, secondary ion analysis app

CA08610064946W

Surface analysis in a SEM with SIMS imaging
 Author: Leys, J. A., McKinney, J. T.
 Location: 3M Cent. Res. Lab., St. Paul, Minn.
 Section: CA079005, CA076XXX Pubi Class: JOURNAL
 Journal: Scanning Electron Microsc. Coden: SEMYBL
 Pubi: 76 Series: 9, Pt. 1, Pages: 231-8
 Identifiers: secondary ion imaging electron microscopy, mass spectroscopy scanning electron microscopy

DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 44 of 71) User4269 12sep77

CA08616109645R
Study of oxide coatings on the surface of increased-purity iron using mass spectrometry of secondary ions
Author: Bobkov, V. V., Koval, A. G., Klimovskii, Yu. A.
Location: USSR
Section: CA055006, CA079XXX Publ Class: JOURNAL
Journal: Vzaimeistvie Atom. Chastits i Tverd. Telom. IV
Issue: 1976 Coden: DSJQUC Publ: 76 Issue: Ch. 3
Pages: 67-70 Language: Russ
Citation: Ref. Zh., Fiz., E 1976, Abstr. No. 11E420
Identifiers: oxide coating iron analysis

CA08614100363Q
High-sensitivity depth profiling of arsenic and phosphorus in silicon by means of SIMS
Author: Witmaack, K.
Location: Phys.-Tech. Abt., Ges. Strahlen- und Umweltforsch.
m.b.H., Neuherberg, Ger.
Section: CA079006 Publ Class: JOURNAL
Journal: Appl. Phys. Lett. Coden: APPLAB Publ: 76
Series: 29 Issue: 9 Pages: 552-4
Identifiers: secondary ion mass spectroscopy, arsenic concn profile detn silicon, phosphorus concn profile detn silicon, silicon analysis mass spectroscopy, high sensitivity mass spectroscopy

CA08614099772P
High performance SIMS system
Author: Dawson, P. H., Redhead, P. A.
Location: Div. Phys., Natl. Res. Council, Ottawa, Ont.
Section: CA076011 Publ Class: JOURNAL
Journal: Rev. Sci. Instrum. Coden: RSINAK Publ: 77
Series: 48 Issue: 2 Pages: 159-67
Identifiers: secondary ion mass spectrometer

CA08614099771N
In-depth concentration profiling of garnet epilayers using secondary ion mass spectrometry
Author: Morgan, A. E., Werner, H. W., Gourgout, J. M.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA076011 Publ Class: JOURNAL
Journal: Appl. Phys. Coden: APHYCC Publ: 77 Series: 12 Issue: 3 Pages: 283-6
Identifiers: mass spectroscopy garnet profiling

CA08614099769T
Application of secondary-electron capture negative-ion (SECI) mass spectrometry to the analysis of metal-organic

Compounds
Author: Daktariens, Dainis R., Fraser, Ian W., Garnett, John L., Gregor, Ian K.
Location: Sch. Chem., Univ. New South Wales, Kensington, Aust.
Section: CA076011, CA080XXX Publ Class: JOURNAL
Journal: Talanta Coden: TLNTA2 Publ: 76 Series: 23
Issue: 10 Pages: 701-4
Identifiers: electron capture neg mass spectrometry, organometal complex mass spectrometry, metal complex mass spectrometry

CA08612083213W
Quantitative secondary ion mass spectrometry analysis of oxygen isotopes and other light elements in silicon oxide films
Author: Croset, M., Dieumegard, D.
Location: Lab. Cent. Rech. Thomson, CSF, Orsay, Fr.
Section: CA079006, CA072XXX, CA076XXX Publ Class: JOURNAL
Journal: Corros. Sci. Coden: CRRSAA Publ: 76
Series: 16 Issue: 10 Pages: 703-15
Identifiers: mass spectrometry silica analysis, silica film oxygen analysis, boron analysis silica film, fluorine analysis silica film, silicon anodic oxidation mechanism

CA08612083090D
Technique for the microanalysis of surface layers and thin films
Author: Canali, C., Prudenziati, M.
Location: Ist. Fis., Univ. Modena, Modena, Italy
Section: CA079000 Publ Class: JOURNAL
Journal: Alta Freq. Coden: ALFRAJ Publ: 76 Series: 45 Issue: 5 Pages: 266-78 Language: Ital
Identifiers: review surface thin film microanalysis, ion microprobe analysis review, backscattering ion analysis review, Auger spectrometry analysis review, mass spectrometry analysis review, secondary ion mass spectrometry review

DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 36 of 71) User4269 12sep77

CA086201480551

De-excitation processes near the surface of ion bombarded silicon dioxide and silicon
 Author: Martin, P. J., Bayly, A. R., Macdonald, R. J., Tolk, N. H., Clark, G. J., Kelly, J. C.
 Location: Dep. Phys., Aust. Natl. Univ., Canberra, Aust.
 Section: CA073003, CA071XXX Publ Class: JOURNAL
 Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 80
 Issue: 2 Pages: 349-64
 Identifiers: deexcitation process ion bombarded silica, silicon deexcitation process ion bombarded silica

CA08618132898J

Quantitative ion microanalysis of a steel surface
 Author: Servais, J. P., Graas, H., Leroy, V., Habraken, L.
 Location: Abbaye Val Benoît, Liege, Belg.
 Section: CA079006 Publ Class: JOURNAL
 Journal: Vide Coden: VIDEAA Publ: 75 Series: 177
 Suppl. Issue: Colloc. Eur. Metall. Vide: Tendances Actuelles, 1975 Pages: 19-27 Language: Fr
 Identifiers: steel surface microanalysis, secondary ion mass spectroscopy steel, cathode sputtering steel surface

CA08618132817G

Analytical studies in the small-dimension range
 Author: Than, Eberhard
 Location: Sektk. Chem. Werkstofftech., Tech. Hochschule, Karl-Marx-Stadt, Karl-Marx-Stadt, E. Ger.
 Section: CA079001 Publ Class: JOURNAL
 Journal: Z. Chem. Coden: ZECEAL Publ: 77 Series: 17
 Issue: 1 Pages: 29
 Identifiers: microanalysis small dimension solid, efficiency small dimension solid analysis, information depth solid analysis, depth profile solid analysis

CA08618132938X

Study of the composition of thallium nitride by secondary ion-ion emission
 Author: Andreeva, A. F., Chenakin, S. P.
 Location: USSR
 Section: CA079006 Publ Class: JOURNAL
 Journal: V sb., Poluchenie i Svoistva Tonkikh Plenok. Coden: DAJQUS Publ: 76 Pages: 17-21 Language: Russ
 Citation: Ref. Zh., Khim. 1976, Abstr. No. 18G195
 Identifiers: thallium nitride analysis ion emission, secondary ion emission thallium nitride, mass spectroscopy thallium nitride

CA08618132899K

Auger-ESCA combined spectrometry for material characterization
 Author: Schillalies, H., Chatel, J. L.
 Location: Leybold Heraeus, Cologne, Ger.
 Section: CA079006 Publ Class: JOURNAL
 Journal: Vide Coden: VIDEAA Publ: 74 Series: 171, Suppl. Issue: Appl. Processus Electron. Ioniques, Congr. Int. AVISEM, 4th, 1974 Pages: 92-100 Language: Fr
 Identifiers: ESCA Auger spectroscopy surface analysis, copper analysis combined ESCA Auger, secondary ion mass spectroscopy copper

CA08622164720M

Dialog File4: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 29 of 71) User4289 12sep77

CA08622164720M
New apparatus for solid and surface analysis using high energy molecular beams
Author: Devienne, F. Marcel, Roustan, Jean C.
Location: Lab. Phys. Mol. Hautes Energ., Peymeinade, Fr.
Section: CA079002, CA066XXX, Publ Class: JOURNAL
Journal: C. R. Hebd. Seances Acad. Sci., Ser. B
CODEN: PUBI: 76 Series: 283 Issue: 14 Pages: 297-9
Language: Fr
Identifiers: molecular beam source mass spectrometer, surface analysis mass spectroscopy, solid analysis mass spectroscopy

CA08622164224C
Surface ionization - "plasma" in disguise
Author: Coles, John N.
Location: Ion-Microprobe Unit, Natl. Environ. Res. Council, Cambridge, Engl
Section: CA076011, Publ Class: JOURNAL
Journal: Surf. Sci. Coden: SUSCAS Publ: 76 Series: 55 Issue: 2 Pages: 721-4
Identifiers: plasma secondary ion mass spectroscopy, surface ionization plasma

CA08622164221Z
Quantitative evaluation of SIMS-spectra using Saha-Eggert type equations
Author: Ruedensauer, F. G., Steiger, W.
Location: Seibersdorf Inst. Phys., Oesterr. Studienges. Atomenerg. G.m.b.H., Vienna, Austria
Section: CA076011, CA055XXX, CA056XXX, CA079XXX, Publ Class: JOURNAL
Journal: Vacuum Coden: VACUAV Publ: 76 Series: 26 Issue: 12 Pages: 537-43
Identifiers: secondary ion mass spectra analysis, Saha-Eggert equation spectra analysis

CA08622163925V
The use of the ion microprobe in industry
Author: Phillips, B. F.
Location: Battelle Columbus Lab., Columbus, Ohio
Section: CA076000, Publ Class: CONF PROC
Journal: Proc. Conf. Appl. Small Accel., 3rd
CODEN: PUBI: 75 Series: 2(CONF-741040-P2), Pages: 154-65 Meeting Date: 74
Publisher: NTIS Address: Springfield, Va
Avall: Duggan, Jerome L.; Morgan, I. L.
Identifiers: review ion microprobe analysis, mass spectroscopy secondary ion review, semiconductor ion microprobe review, metallurgy ion microprobe review

CA08622161703X
Evaluation of impurity and contamination levels on mica surfaces using SSIMS
Author: Dossatt, W. G., King, R. M., Parker, E. M. C.
Location: Dep. Phys., City London Polytech., London, Engl.
Section: CA066003, CA075XXX, CA076XXX, Publ Class: JOURNAL
Journal: J. Vac. Sci. Technol. Coden: JVSTAL Publ: 77 Series: 14 Issue: 2 Pages: 711-17
Identifiers: mica surface contamination mass spectroscopy, cleaning mica surface evaluation, moscovite surface conch impurity, hydrocarbon surface conch mica

CA08622161633Z
SIMS studies at metal surfaces
Author: Barber, M.
Location: Dep. Chem., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA065000, CA065XXX, CA076XXX, Publ Class: JOURNAL
Journal: NATO Adv. Study Inst. Ser., Ser. B Coden: NASBDS Publ: 76 Series: 816 Issue: Electron. Struct. React. Met. Surf. Pages: 459-83 Meeting Date: 75
Identifiers: review mass spectroscopy surface, electron structure surface review, conch surface mass spectra review, metal surface mass spectra review

CA08620149944U
Detection of hydrogen in metals by the SIMS-method with quadrupole mass filter
Author: Pavlyak, F., Bori, L., Giber, J., Buhl, R.
Location: Phys. Inst., Tech. Univ. Budapest, Budapest, Hung.
Section: CA073005, CA076XXX, Publ Class: JOURNAL
Journal: Jpn. J. Appl. Phys. Coden: JJAPAB Publ: 77 Series: 16 Issue: 2 Pages: 335-42
Identifiers: hydrogen detection metal mass spectroscopy, quadrupole mass filter hydrogen detection, secondary ion mass spectroscopy hydrogen

DIALOG File4: CA CONDENS/CASIA 77- /VOL07(08) (COPR. Am. Chem. Soc.) (Item 22 of 71) User:4269 12sep77

CA08624182457P
Ion microprobe trace element analysis with high mass resolution
Author: Reed, S. J. B., Long, J. V. P., Coles, J. N., Astill, D. M.
Location: Dep. Mineral. Petrol., Natl. Environ. Res. Cent., Cambridge, Engl.
Section: CA076006 Publ Class: JOURNAL
Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMI3Y
Publ: 76 Series: 22 Issue: 3-4 Pages: 333-8
Identifiers: ion microprobe trace element detn, mass resolu
Ion microprobe analysis

CA08624181533V
Sputtering of thin films in an ion microprobe
Author: Hofer, M. O., Liebl, M.
Location: Max-Planck-Inst. Plasmaphys., Garching, Ger.
Section: CA076011, CA075XXX Publ Class: CONF PROC
Journal: Ion Beam Surf. Layer Anal., (Proc. Int. Conf.)
Codens: 35KAM Publ: 76 Series: 2, Pages: 659-64
Meeting Date: 75
Publisher: Plenum Address: New York, N. Y
Avail: Meyer, Otto; Linker, Gerhard; Kaeppler, Franz
Identifiers: sputtering film ion microprobe, mass spectroscopy film sputtering, titanium sputtering oxygen coverage

CA08624181468C
Problems occurring in depth concentration profiling
Author: Buger, P. A., Blum, F., Schilling, J. H.
Location: Natl. Phys. Res. Lab., Council. Sci. Ind. Res., Pretoria, S. Afr.
Section: CA076008 Publ Class: JOURNAL
Journal: Z. Naturforsch., A Coden: ZENAAU Publ: 77
Series: 32A Issue: 2 Pages: 144-6
Identifiers: depth concn profiling, mass spectrometry depth profiling

CA08624181435Q
An apparatus for measuring the positive secondary ion emission from solid surfaces
Author: Duesternoeft, Heinz, Manns, Rainer, Rogaschewski, Siegfried
Location: Sekl. Phys., Humboldt-Univ. Berlin, Berlin, E. Ger.
Section: CA076005 Publ Class: JOURNAL
Journal: Exp. Tech. Phys. Coden: EXPPAL Publ: 77
Series: 25 Issue: 2 Pages: 117-22 Language: Ger
Identifiers: secondary ion emission app, solid surface secondary ion emission, metal secondary ion yield

CA08624181431K
Xenon(II+) ion beam induced secondary ion (silicon(II+)) yield from silicon-metal interfaces
Author: Narusawa, T., Satake, T., Komiya, S., Shimizu, A., Iwami, M., Hiraki, A.
Location: ULVAC Corp., Chigasaki, Japan
Section: CA076005 Publ Class: CONF PROC
Journal: Ion Beam Surf. Layer Anal., (Proc. Int. Conf.)
Codens: 35KAM Publ: 76 Series: 2, Pages: 665-73
Meeting Date: 75
Publisher: Plenum Address: New York, N. Y
Avail: Meyer, Otto; Linker, Gerhard; Kaeppler, Franz
Identifiers: silicon sputtering yield xenon, gold silicon xenon sputtering, surface silicon xenon sputtering, mass spectra silicon sputtering

CA0862417785M
New methods of studying solid state surfaces
Author: Benninghoven, Alfred
Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
Section: CA066000, CA075XXX, CA065XXX Publ Class: JOURNAL
Journal: Phys. Bl. Coden: PHBLAG Publ: 76 Series: 32 Issue: 7 pages: 299-308 Language: Ger
Identifiers: review adsorption surface structure, photoelectron spectroscopy adsorption review, Auger spectroscopy adsorption review, mass spectroscopy adsorption review, analysis surface electron spectra review

CA0862417784K
Monolayer analysis of contaminated surfaces
Author: Holm, Reiner, Storp, Siegfried
Location: Ingenieurber. Angew. Phys., Bayer A.-G., Leverkusen, Ger.
Section: CA066000, CA075XXX, CA065XXX Publ Class: JOURNAL
Journal: Phys. Bl. Coden: PHBLAG Publ: 76 Series: 32 Issue: 8 pages: 343-52 Language: Ger
Identifiers: review mass spectroscopy surface spectroscopy surface review, mass spectroscopy surface review, photoelectron spectroscopy surface review, ion scattering surface review, electron microscopy surface review, IR spectroscopy surface review

DIALOG File: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 15 of 71) User:4269 12sep77

CA08702014292E

Methods and results of studies of the state of atoms and the element composition in angstrom-thickness surface layers
 Author: Borovskii, I. B.
 Location: Inst. Fiz. Tverd. Tela, Chernogolovka, USSR
 Section: CA075000 Publ Class: JOURNAL
 Journal: Izv. Akad. Nauk SSSR, Ser. Fiz. Coden: IANFAY
 Publi: 76 Series: 40 Issue: 2 Pages: 296-302
 Language: Russ
 Identifiers: Review state atom surface method, compn surface layer detn review

CA08702012092R

Quantitative determination of water coverage on potassium chloride(001) by secondary ion mass spectroscopy
 Author: Kaarmann, H., Hoinkes, H., Wilsch, H.
 Location: Phys. Inst., Univ. Erlangen-Nuernberg, Erlangen, Ger.
 Section: CA066004 Publ Class: JOURNAL
 Journal: J. Chem. Phys. Coden: JCPSA6 Publi: 77
 Series: 66 Issue: 10 Pages: 4572-6
 Identifiers: water detn adsorbed potassium chloride, mass spectroscopy adsorbed water

CA08626199353W

Test of a quantitative approach to secondary ion mass spectroscopy on glass and silicate standards
 Author: Morgan, A. E., Werner, H. W.
 Location: Philips Res. Lab., Eindhoven, Neth.
 Section: CA079006, CA057XXX Publ Class: JOURNAL
 Journal: Anal. Chem. Coden: ANCHAM Publi: 77
 Series: 49 Issue: 7 Pages: 927-31
 Identifiers: secondary ion mass spectroscopy quant, glass analysis mass spectroscopy, silicate analysis mass spectroscopy

CA08626198784A

In situ characterization of MBE grown gallium arsenide and aluminum gallium arsenide (AlxGa1-xAs) films using RHEED, SIMS, and AES techniques
 Author: Ploog, K., Fischer, A.
 Location: Max-Planck-Inst. Festkoerperforsch., Stuttgart, Ger.
 Section: CA076013, CA075XXX Publ Class: JOURNAL
 Journal: Appl. Phys. Coden: APHYCC Publi: 77
 Series: 13 Issue: 2 Pages: 111-21
 Identifiers: epitaxy aluminum gallium arsenide, mol beam epitaxy

CA08626193455J
 Application of secondary ion mass spectrometry in the research of tungsten
 Author: Kozma, Laszlo, Riedel, Miklos
 Location: Fiz. Mem. Tanszek, Estvos Lorand Tudomanyeg., Budapest, Hung.
 Section: CA056007, CA073XXX Publ Class: JOURNAL
 Journal: Magy. Tud. Akad. Musz. Fiz. Kut. Intez. Kozl. Coden: MTIKAV Publi: 75 Issue: 0-16 Pages: 23-32
 Language: Hung
 Identifiers: iron grain boundary diffusion tungsten, nickel grain boundary diffusion tungsten, mass spectrometry secondary ion tungsten

CA08626193232J
 Surface techniques for the study of materials: AES, ESCA, SIMS

Author: Marcus, H. L.
 Location: Univ. Texas, Austin, Tex.
 Section: CA056000, CA066XXX Publ Class: JOURNAL
 Journal: J. Met. Coden: JOMTAA Publi: 77
 Series: 29 Issue: 2 Pages: 20-4
 Identifiers: review alloy surface examn, Auger electron microscopy alloy review, mass spectroscopy alloy surface review

DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (COPR. Am. Chem. Soc.) (Item 8 of 71) User:4269 12sep77

CA08704033121Q

Use of ion and electron microprobes for full characterization of particulate matter
 Author: Gavrilovic, John, Majewski, Elizabeth
 Location: Walter C. McCrene Assoc., Inc., USA
 Section: CA079001 Pubi Class: JOURNAL
 Journal: Am. Lab. (Fairfield, Conn.)
 Pubi: 77 Series: 9 Issue: 4 Pages: 19-21, 24-5, 27-8
 Identifiers: electron microprobe particle analysis, ion microprobe particle analysis, secondary ion mass spectrometry

CA08702015503W

Depth profile detection limit of 3 times, 1015 atcm cm-3 for arsenic in silicon using cesium(+) ion bombardment negative secondary ion mass spectrometry
 Author: Williams, Peter, Evans, Charles A., Jr.
 Location: Mater. Res. Lab., Univ. Illinois, Urbana, Ill.
 Section: CA079006, CA07611X Pubi Class: JOURNAL
 Journal: Appl. Phys. Lett.
 Pubi: 77 Series: 30 Issue: 11 Pages: 559-61
 Identifiers: arsenic depth profile detn silicon, secondary ion mass spectrometry silicon, cesium ion source mass spectrometry, neg secondary ion mass spectrometry

CA08704027207F

SEM + SIMS: a unique combination for surface characterization
 Author: Leys, J. A., McKinney, J. T.
 Location: Cent. Res. Lab., 3M Co., St. Paul, Minn.
 Section: CA056006, CA057XXX Pubi Class: JOURNAL
 Journal: Proc., Annu. Conf. - Microbeam Anal. Soc.
 PCSCD8 Pubi: 75 Series: 10, Pages: 59A-59E
 Identifiers: electron microscopy scanning surface, mass spectrometry secondary ion, aluminum silicon surface analysis, glass fluorocarbon coating analysis

CA08702015421H

Investigations on copper-nickel and copper-aluminum systems with secondary ion mass spectrometry (SIMS)
 Author: Rodriguez-Murcia, H., Basko, H. E.
 Location: Zentralabt. Chem. Anal., MFA, Juellich G.s.b.M., Juellich, Ger.
 Section: CA079006 Pubi Class: TECH REP
 Journal: Report Coden: C2REPU Pubi: 76 Issue: Juel-1292, Pages: 92 pp. Language: Ger
 Citation: INIS Atomindex 1976, 7(23), Abstr. No. 274122
 Avail: INIS
 Identifiers: secondary ion mass spectrometry analysis, alloy analysis mass spectrometry, copper alloy analysis mass spectrometry, nickel alloy analysis mass spectrometry, aluminum alloy analysis mass spectrometry, ionization coeff mass spectrometry, cluster ion mass spectrometry

CA08702015350J

Newer methods for surface analysis
 Author: Holm, R.
 Location: Leverkusen, Ger.
 Section: CA079000 Pubi Class: CONF PROC
 Journal: Messtech. Autom., Int. Kongr., Kongressvortr., 6th
 Coden: 35ITA5 Pubi: 74 Pages: 27-36 Language: Ger
 Publisher: VDI-Verlag Address: Dueseldorf, Ger
 Avail: Toeller, Heinrich
 Identifiers: review surface analysis, secondary ion mass spectrometry review, Auger spectroscopy surface analysis review, x ray photoelectron spectroscopy review, photoelectron spectroscopy surface review

Print 8/2/1-71
 DIALOG File4: CA CONDENS/CASIA 77- /VOL87(08) (CDPR. Am. Chem. Soc.) (Item 1 of 71) User:4269 12sep77

CA08708061974P

Study of solid surfaces by secondary-ion mass spectrometry (SIMS)

Author: Vancea, I.
 Location: Inst. Izot. Stabili, Cluj-Napoca, Rom.
 Section: CA079000, CA076XXX Publ Class: JOURNAL
 Journal: Stud. Cercet. Fiz. Coden: SCEFAB Publ: 76
 Series: 28 Issue: 9 Pages: 921-39 Language: Rom
 Identifiers: review secondary ion mass spectrometry, surface analysis mass spectrometry review

CA08708057276V

Secondary ion mass spectrometry for diffusion studies in glass

Author: Mizutake, Atsushi, Iino, Akira
 Location: Fac. Eng., Nagoya Univ., Nagoya, Japan
 Section: CA057001 Publ Class: JOURNAL
 Journal: Bull. Chem. Soc. Jpn. Coden: BCSUAB Publ: 77
 Series: 50 Issue: 6 Pages: 1469-71
 Identifiers: glass silver sodium diffusion, silver diffusion glass cation exchange, sodium diffusion glass cation exchange, cation exchange diffusion glass

CA08706047595J

A quadrupole instrument for investigations of electron and ion beam interactions with solids

Author: Potosky, J. C., Wittry, D. B.
 Location: Dep. Mater. Sci. Electr. Eng., Univ. South. California, Los Angeles, Calif.
 Section: CA079002 Publ Class: JOURNAL
 Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB Publ: 75 Series: 10 Pages: 76A-76D
 Identifiers: quadrupole mass spectrometer solid, secondary ion mass analyzer solid, ion beam interaction solid, electron beam interaction solid

CA08706047567B

Analysis of solid surface monolayers by mass and energy spectrometry methods

Author: Treitz, Norbert
 Location: Phys.-Tech. Bundesanst., Berlin, Ger.
 Section: CA079000 Publ Class: JOURNAL
 Journal: J. Phys. E Coden: JPSIAE Publ: 77 Series: 10 Issue: 6 Pages: 573-85
 Identifiers: surface analysis spectrometry, mass spectrometry surface analysis review, energy spectrometry surface analysis review

CA08706044769H

SIMS, EID and flash-filament investigation of oxygen, hydrogen, (oxygen + hydrogen) and water interaction with vanadium

Author: Benninghoven, A., Mueller, K. M., Ploc, C., Schember, M., Steffens, P.
 Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
 Section: CA067003, CA066XXX, CA076XXX Publ Class: JOURNAL
 Journal: Surf. Sci. Coden: SUSCAS Publ: 77 Series: 63 Pages: 403-16
 Identifiers: vanadium reaction hydrogen oxygen water, oxygen reaction vanadium surface, hydrogen reaction vanadium surface, water reaction vanadium surface, mass spectroscopy vanadium surface reaction

CA08704033236F

Quantitative multielement analysis with SIMS

Author: Fralick, R. D., Conrad, R. L.
 Location: Appl. Res. Lab., Sunland, Calif.
 Section: CA079006 Publ Class: JOURNAL
 Journal: Res./Dev. Coden: REDEAG Publ: 77 Series: 28 Issue: 3 Pages: 32-4, 36, 38
 Identifiers: secondary ion mass spectrometry analysis, multielement analysis mass spectrometry

CA08704033191N

Semiquantitative analysis of alloys with SIMS

Author: Genlach, R. L., Davis, L. E.
 Location: Phys. Electron. Ind., Inc., Eden Prairie, Minn.
 Section: CA079006 Publ Class: JOURNAL
 Journal: J. Vac. Sci. Technol. Coden: JVSTAL Publ: 77 Series: 14 Issue: 1 Pages: 339-42
 Identifiers: alloy analysis mass spectroscopy, secondary ion mass spectroscopy alloy, nickel alloy analysis mass spectroscopy, aluminum alloy analysis mass spectroscopy, silicon deth alloy mass spectroscopy, transition metal deth alloy

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20) (Copr. Am. Chem. Soc.) (Item 136 of 140) User:4930 18may78

CA08712094251D

Application of characteristic secondary ion mass spectra to a depth analysis of iron aluminum oxide
 Author: Kitada, Akihiko, Tamura, Hifumi
 Location: Nippon Coll. Health Phys. Educ., Tokyo, Japan
 Section: CA076011, CA055XXX, CA079XXX Publ Class: JOURNAL
 Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 77
 Series: 25 Issue: 1 Pages: 85-9
 Identifiers: mass spectrometry secondary ion oxide, iron aluminum oxide depth analysis, concn profile iron aluminum oxide

CA08712094251D

Descriptors: Mass spectra, secondary-ion
 Identifiers: base depth anal oxide spectroscopy properties concn profile oxidized iron aluminum alloy surface
 CAS Registry Numbers: 11146-20-6 7429-90-5 7439-89-6 1344-28-1 1309-37-1

CA08712091171S

Twin modulated supersonic beams apparatus applied to interaction with a surface chemically analyzed by S.S.I.M.S.
 Author: Cavallini, M., Nencini, G.
 Location: Lab. Ric. Base, Snamprogetti S.p.A., Rome, Italy
 Section: CA066003 Publ Class: CONF PROC
 Journal: C. R. - Symp. Int. Jets Mol., 5th Coden: 36GLAC
 Publ: 75 Pages: Paper No. B4, 10 pp.
 Publisher: Com. Int. Jets Mol., c/o Dr. F. Marcel Devienne
 Address: Peymeinade, Fr
 Identifiers: secondary ion mass spectroscopy surface, water adsorption interaction silver surface

CA08712091171S

Descriptors: Adsorption; Desorption
 Identifiers: properties water vapor interaction silver surface beams
 CAS Registry Numbers: 7440-22-4 7732-18-5 7440-37-1

CA08712089164Y

Construction and operating parameters of the mass spectrometric part of the apparatus for studying the reaction of liquid metals with gases by secondary ion-ion emission
 Author: Pokhodnya, I. K., Shvachko, V. I., Alabushev, D. G., Komissar, A. D.
 Location: Khar'k. Gos. Univ. Im. Gori'kovo, Kharkov, USSR
 Section: CA056007, CA076XXX Publ Class: TECH REP
 Journal: Deposited Doc. Coden: D80EP2 Publ: 75
 Issue: VINITI 2783-75, Pages: 111-13 Language: Russ
 Avail: BLD
 Identifiers: gas metal reaction spectrometry, mass spectrometer ion emission

CA08712089164Y

Descriptors: Metals, reactions; Mass spectrometers and spectrographs; Secondary-ion
 Identifiers: gases study gas molten

CA08712089048P

Analysis of the surface of platinum-rhodium alloys by x-ray photoelectron spectrometry and secondary ion mass spectrometry
 Author: Blaise, G., Contour, J. P., Leclerc, C.
 Location: Lab. phys. Solide, Univ. Paris Sud, Orsay, Fr.
 Section: CA056006, CA066XXX Publ Class: JOURNAL
 Journal: J. Microsc. Spectrosc. Electron. Coden: JMSEDI
 Publ: 76 Series: 1 Issue: 2 Pages: 247-54
 Language: Fr
 Identifiers: platinum rhodium surface analysis

CA08712089048P

Descriptors: Surface
 Identifiers: base anal high temps platinum rhodium alloys x ray photoelectron secondary ion mass spectroscopy
 CAS Registry Numbers: 63781-42-0

CA08712088666B

Phase analysis in steel by secondary ion mass spectrometry
 Author: Maitrepierre, P., Nandan-Inani, R., Rofes-Vernis, J. Thomas, B., Henry, G.
 Location: Inst. Rech. Sider. Fr., St-Germain-en-Laye, Fr.
 Section: CA055007 Publ Class: JOURNAL
 Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PSC08 Publ: 76 Series: 11, Pages: Paper No. 43, 7 pp.
 Identifiers: steel phase analysis mass spectrometry, niobium carbide pptn steel, carbide pptn detn steel

CA08712088666B

Descriptors: Mass spectroscopy, secondary-ion
 Identifiers: solid soln. (NBN) pptn high Ni stainless steel detn spectrometry niobium carbide phase anal base carbonitride
 CAS Registry Numbers: 12069-94-20 24621-21-40 63665-10-1 63665-11-2

DIALOG File# CA CONDENS/CASIA 77-VOL88(20) (Copr. Am. Chem. Soc.) (Item 131 of 140) User:4930 18may78

CA08714110737U
Comparison of surface sputtering characteristics by a low energy secondary ion mass analysis using a quadrupole type analyzer with those using Auger electron spectrum analysis
Author: Suwa, Yoshiaki, Kikuchi, Tadashi, Furuya, Keiichi, Ono, Hirobumi, Hoshino, Kiyoshi

Location: Fac. Sci., Sci. Univ., Tokyo, Tokyo, Japan
Section: CA079001, CA076XXX Publ Class: JOURNAL
Journal: Sur-seki Kagaku Coden: BNSKAK Publ: 77
Series: 26 Issue: 4 Pages: 271-2 Language: Japan
Identifiers: Sputtering surface analysis, secondary ion mass spectroscopy analysis, Auger spectroscopy analysis

CA08714110797U

Descriptons: Mass spectrometers and spectrographs, quadrupole, secondary ion, mass spectroscopy, quadrupole, secondary ion, Electron emission spectroscopy, Auger, Alloys, analysis, Sputtering, Identifiers: low energy ionization surface Auger compared characteristics

CA08714110791N

Local surface analysis - a new area of microchemical methods of work

Author: Holm, R.
Location: Ber. Angew. Phys., Bayer A.-G., Leverkusen, Ger.
Section: CA079000 Publ Class: JOURNAL
Journal: Chem. Rundsch. Coden: CHRUAE Publ: 77
Series: 30 Issue: 20 Pages: 6-7, 9, 11, 14 Language: Ger

Identifiers: review local surface analysis, secondary ion mass spectroscopy review, mass spectroscopy surface analysis review, Auger spectroscopy surface analysis review, ESCA local surface analysis review

CA08714110731N

Descriptons: Surface, Mass spectroscopy, secondary ion, Photoelectron spectroscopy, ESCA, Electron emission spectroscopy, Auger
Identifiers: local anal

CA08714110234H

Relative ion sputtering yield measurements by integration of secondary ion energy distribution using a retarding-dispersive ion energy analyzer

Author: Krauss, A. R., Gruen, D. M.
Location: Chem. Div., Argonne Natl. Lab., Argonne, Ill.
Section: CA076005 Publ Class: JOURNAL
Journal: Appl. Phys. Coden: APHYCC Publ: 77 Series: 14 Issue: 1 Pages: 89-97
Identifiers: ion sputtering yield detn, mass spectrometer sputtering yield, energy analyzer sputtering yield

CA08714110234H
Descriptons: Ions in gases, Sputtering, yield, Mass spectrometers and spectrographs, secondary ion
Identifiers: energy analyzer retarding dispersive detn integration distribution

CA08712094985W

Sensitivity effects in the analysis of nickel-chromium-iron alloys by IMHA
Author: Brown, J. D., Gras, D. J., Von Rosenstiel, A. P., Kolster, B. H.

Location: Metallinst., TNO, Apeldoorn, Neth.
Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCOB Publ: 76 Series: 11, Pages: Paper No. 44, 2 pp.

Identifiers: ion microprobe analysis alloy, iron alloy analysis ion microprobe, chromium iron alloy microprobe analysis, nickel iron alloy microprobe analysis

CA08712094985W

Descriptons: Mass spectroscopy, secondary ion microprobe

Identifiers: noncase anal chromium iron nickel alloys

CAS Registry Numbers: 11122-73-9 11148-32-6

CA0871209486CH

An assessment of some techniques available for the local detection of hydrogen in metals

Author: Marsh, G. P.
Location: Mater. Dev. Div., AERE, Harwell/Oxfordshire, Engl.
Section: CA079005 Publ Class: TECH REP
Journal: U. K. At. Energy Res. Establ., Rep. Coden: UKRAAL Publ: 76 Issue: AERE-R 8560, Pages: 29 pp.

Identifiers: tritium autoradiog hydrogen detection metal, neutron radiog hydrogen detection metal, nuclear microprobe hydrogen detection metal, metal local analysis hydrogen, secondary ion mass spectro hydrogen, steel analysis hydrogen embrittlement, titanium alloy analysis hydrogen

CA08712094866H

Descriptons: Alloys, analysis, Metals, analysis, Mass spectroscopy, secondary ion, Radiochemical analysis, activation, microprobe, Radiography, neutron

Identifiers: detection hydrogen local embrittlement studies Titanium base uses miscellaneous isotope indicator autoradiog

CAS Registry Numbers: 1333-74-0 12597-69-2 10028-17-8

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 126 of 140) User4930 18may78

CA08714110896A
Metallurgical
spectrometry

Author: Walsh, J. M.
Location: Mater. Eng. Res. Lab., Pratt and Whitney Aircraft,
East Hartford, Conn.
Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden:
PCSCD8 Publ: 74 Series: 9, Pages: Paper No. 51, 4 pp.
Identifiers: secondary ion mass spectroscopy, metalurgy, ion
microprobe metallurgical analysis, oxygen detn titanium alloy,
nitrogen detn titanium alloy, titanium alloy analysis oxygen
nitrogen, boron boundary segregation nickel alloy

CA08714110896A

Descriptors: Metallurgy; Mass spectroscopy; secondary ion
microprobe
Identifiers: analysis detn titanium alloys base nitrogen
oxygen nickel alloy grain boundaries Nickel boron anal
metallurgical
CAS Registry Numbers: 7782-44-7 7727-37-9 12743-70-3
7440-42-8

CA08714110830U

High mass-resolution ion microprobe analysis
Author: Reed, S. J. B., Long, J. V. P., Coles, J. N.,
Astill, D. M.
Location: Dep. Mineral. Petrol., Univ. Cambridge, Cambridge,
Engl.
Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden:
PCSCD8 Publ: 76 Series: 11, Pages: Paper No. 46, 4
pp.

Identifiers: high mass resolu ion microprobe, mass
spectroscopy ion microprobe analysis, mass resolu ion
microprobe analysis, chromium detn glass ion microprobe, glass
analysis chromium, mol peak interference ion microprobe

CA08714110890U

Descriptors: Mass spectrometers and spectrographs, secondary-
ion microprobe
Identifiers: high resolu anal

CA08714110889A

Local thermal equilibrium analysis of secondary ion mass
spectra from multi-element glasses
Author: Newbury, Dale E., Mykeltou, Robert L., Heinrich,
Kurt F. J.
Location: Anal. Chem. Div., Natl. Bur. Stand., Washington,
D. C.

Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden:

PCSCD8 Publ: 76 Series: 11, Pages: Paper No. 42, 7
pp
Identifiers: local thermal equil mass spectroscopy, glass
analysis mass spectroscopy, secondary ion mass spectroscopy
glass

CA08714110889A

Descriptors: Mass spectroscopy, secondary ion; Glass, oxide
Identifiers: anal local thermal equil

CA08714110831A

Detection of silicate (SiO₂-) ions from silicon
dioxide-silicon interface by means of SIMS
Author: Nakanura, Kazumitsu, Hirose, Hiroshi, Shibata,
Atsushi, Tamura, Hifumi
Location: Naka Works, Hitachi Ltd., Katsuta, Japan
Section: CA079005 Publ Class: JOURNAL
Journal: Jpn. J. Appl. Phys. Coden: JUAPAS Publ: 77
Series: 16 Issue: 8 Pages: 1307-11
Identifiers: silicate ion detection interface silicon,
silica interface silicate ion detection, secondary ion mass
spectroscopy silicate

CA08714110831A

Descriptors: Mass spectroscopy, secondary-ion; Interface
Identifiers: detection silica silicon analysis silicate anal
ions
CAS Registry Numbers: 53095-83-3 12210-41-2 7631-86-9
7440-21-3

CA08714110830Z

Tests for the identification of iron oxides using an ion
probe microanalyzer
Author: Namdani, R.
Location: Inst. Rech., Saint-Germain-en Laye, Fr.
Section: CA079005 Publ Class: JOURNAL
Journal: J. Microsc. Spectrosc. Electron. Coden: JMSEDI
Publ: 77 Series: 2 Issue: 3 Pages: 293-300

Language: Fr
Identifiers: ion microprobe mass spectroscopy, secondary ion
mass spectroscopy, iron oxide identification mass spectroscopy
layer thickness detn mass spectroscopy

CA08714110830Z

Descriptors: Mass spectroscopy, secondary-ion
Identifiers: analysis identification oxide layers microprobe
iron oxides
CAS Registry Numbers: 1345-25-1 1317-61-9

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 121 of 140) User:4930 18may78

CA087161261477

Use of mass spectrometry of secondary ions for studying dielectric-semiconductor laminated systems
 Author: Litovchenko, V. G., Marchenko, R. I., Romanova, G. F.
 Location: Khar'k. Gos. Univ. im. Gor'kogo, Kharkov, USSR
 Section: CA076013 Pubi Class: TECH REP
 Journal: Deposited Doc. Coden: DBDEP2 Pubi: 75
 Issue: VINITI 2783-75, Pages: 38-50 Language: Russ
 Avail: BLLD

Identifiers: secondary ion mass spectra, semiconductor dielec mass spectra, silicon dielec mass spectra, silica silicon mass spectra, alumina silicon mass spectra, phosphosilicate glass silicon mass spectra

CA087161261477

Descriptors: Mass spectra, secondary-ion: Glass, oxide: Electric insulators and Dielectrics
 Identifiers: properties structures silicon phosphosilicate
 CAS Registry Numbers: 7440-21-3 7631-86-9 1344-28-1

CA08716126135N

Analytical applications of "cluster ions" in spark-source mass spectrometry and secondary ion emission
 Author: Stefani, R.
 Location: CEN, CEA, Grenoble, Fr.
 Section: CA076011, CA075XXX, CA079XXX Pubi Class: JOURNAL
 Journal: J. Phys. (Paris), Colloq. Coden: JPQCAK Pubi: 77
 Issue: 2 Pages: 19-21 Language: Fr
 Identifiers: cluster ion application mass spectrometry, secondary ion emission cluster ion

CA08716126135N

Descriptors: Mass spectrometry
 Identifiers: cluster ion applications

CA08716126128N

Sources of positive ions for mass spectrometric apparatus
 Author: Bobkov, V. V., Klimovskii, Yu. A., Sidorenko, Yu. V. Koval, A. G.
 Location: Khar'k. Gos. Univ. im. Gor'kogo, Kharkov, USSR
 Section: CA076011 Pubi Class: TECH REP
 Journal: Deposited Doc. Coden: DBDEP2 Pubi: 75
 Issue: VINITI 2783-75, Pages: 132-40 Language: Russ
 Avail: BLLD
 Identifiers: ion source mass spectrometer, pos ion source mass spectrometer, secondary ion mass spectrometer source

CA08716126128N

Descriptors: Ion sources
 Identifiers: secondary mass spectrometers

CA08716125785N

Secondary ion-ion emission study of ion processes in a problem-solving laboratory
 Author: Koval, A. G.
 Location: Khar'k. Gos. Univ. im. Gor'kogo, Kharkov, USSR
 Section: CA076000 Pubi Class: TECH REP
 Journal: Deposited Doc. Coden: DBDEP2 Pubi: 75
 Issue: VINITI 2783-75, Pages: 7-33 Language: Russ
 Avail: BLLD

Identifiers: secondary ion mass spectra review, metal secondary ion emission review, semiconductor secondary ion emission review, transition metal secondary ion review, IIIA pnictide secondary ion review, pnictide IIIA secondary ion review, adsorbed substance secondary ion review

CA08716125785N R

Descriptors: Mass spectra, secondary-ion: Adsorbed substances; Transition metals, properties; Group IIIA element pnictides
 Identifiers: semiconductor compds Group III V semiconductors

CA08714110897B

Ion scattering spectrometry and secondary ion mass spectrometry: two complimentary techniques
 Author: Leys, J. A., McKinney, J. T.
 Location: Cent. Res. Lab., 3M Co., St. Paul, Minn.
 Section: CA079006 Pubi Class: JOURNAL
 Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB Pubi: 74 Series: 9, Pages: Paper No. 52, 5 pp.
 Identifiers: ion scattering spectrometry surface analysis, secondary ion mass spectrometry surface, surface analysis spectrometry

CA08714110897B

Descriptors: Mass spectrometry, secondary ion: ion beams; Surface
 Identifiers: anal scattering spectrometry compared secondary

DIAL03 File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 116 of 140) User4930 18may78

CA08718141917N

Quasimultaneous SIMS-AES-xps investigation of the oxidation of titanium in the monolayer range
 Author: Benninghoven, A., Bisping, H., Ganschow, D., Wiedmann, L.

Location: Phys. Inst., Univ. Muenster, Muenster, Ger.

Section: CA067003 Pubi Class: JOURNAL

Journal: Appl. Phys. Lett. Coden: APPLAB Pubi: 77

Series: 31 Issue: 5 Pages: 341-3

Identifiers: oxidn monolayer titanium spectroscopy, Auger spectroscopy titanium oxidn, photoelectron spectroscopy titanium oxidn, mass spectroscopy titanium oxidn

CA08718141917N

Descriptors: Oxidation;Mass spectroscopy;secondary-ion; Electron emission spectroscopy;Auger;Photoelectron spectroscopy,x-ray
 Identifiers: reactions oxidn monolayer range simultaneous titanium study Auger

CAS Registry Numbers: 7440-32-6

CA08716126687U

Descriptors: Molecular beams;Mass spectroscopy;secondary-ion; Films
 Identifiers: anal org compd bombardment spectroscopic

CA08716126550U

Identification of thin surface films on small particles

Author: Gavrilovic, J.

Location: McCrone Assoc., Inc., Chicago, Ill.

Section: CA070001 Pubi Class: JOURNAL

Journal: Microscope Coden: MICRAD Pubi: 77 Series: 25

Issue: 2 Pages: 119-26

Identifiers: thin film identification small particle, electron microscopy film identification particle, microprobe electron film identification particle, ESCA film identification particle, ion microprobe film identification particle, mass spectroscopy film identification particle

CA08716126550U

Descriptors: Films;Particles;Electron microprobe analysis; Photoelectron spectroscopy;ESCA;Mass spectroscopy;secondary-ion;Mass spectroscopy;secondary-ion, microprobe;Microscopy,electron
 Identifiers: identification small thin

CA08716126254A

An instrument for secondary ion mass spectroscopy

Location: Ger.

Section: CA076011 Pubi Class: PAT

Journal: Brit. Coden: BRXAAA Pubi: 770504 Pages: 4

pp.

Identifiers: secondary ion mass spectrometer

Patent No: 1472356 Applic No: 2424306 Date: 740518

Class: H01J37/04 Country: Ger.

Assignee: Leybold-Heraeusverwaltungs G.m.b.H.

CA08716126254A

P

Descriptors: Mass spectrometers and spectrographs;secondary-ion
 Identifiers: linear lens mask detector geometry

CA08716126687U

Use of molecular beams for the analysis of organic compounds in liquid or solid state

Author: Devienne, F. Marcel, Giroud, Josiane

Location: Lab. Phys. Mol. Hautes Energ., Peymeinade, Fr.

Section: CA080006 Pubi Class: CONF PRCD

Journal: C. R. - Symp. Int. Jets Mol., 5th Coden: 36GLAC

Pubi: 75 Pages: Paper No. 87, 10 pp.

Publisher: Com. Int. Jets Mol., c/o Dr. F. Marcel Devienne

Address: Peymeinade, Fr

Identifiers: secondary ion mass spectroscopy org, mol beam org film analysis, film org analysis mass spectroscopy

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DIALOG File 4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 111 of 140) User:4930 18may78

CA087181452450
 Quantitative analysis of hydrogen in titanium with an ion microanalyzer
 Author: Okajima, Yoshiaki, Aizawa, Yukiyo, Suzuki, Katsumi, Sugakura, Yasushi
 Location: Hitachi Res. Lab., Hitachi, Ltd., Hitachi, Japan
 Section: CA079006 Pub Class: JOURNAL
 Journal: Bull. Chem. Soc. Jpn. Coden: BCSJAB Publ: 77
 Series: 50 Issue: 4 Pages: 886-8
 Identifiers: hydrogen detn titanium ion microprobe, secondary ion mass spectroscopy hydrogen, mass spectroscopy microprobe hydrogen detn, titanium analysis hydrogen

CA087181452450
 Descriptors: Mass spectroscopy, secondary-ion
 Identifiers: analysis detn titanium microprobe spectroscopic hydrogen
 CAS Registry Numbers: 1333-74-0 7440-32-6

CA087181452070
 Qualitative analysis of thin gallium nitride films with secondary ion mass spectrometry
 Author: Andrews, J. Edward, Duhamel, A. P., Littlejohn, Michael A.
 Location: Dep. Electr. Eng., North Carolina State Univ., Raleigh, N. C.
 Section: CA079005 Pub Class: JOURNAL
 Journal: Anal. Chem. Coden: ANCHAM Publ: 77 Series: 49 Issue: 11 Pages: 1536-40
 Identifiers: gallium nitride analysis mass spectroscopy, secondary ion mass spectroscopy, film gallium nitride analysis, nitrogen detection gallium nitride, oxygen detection gallium nitride, carbon detection gallium nitride, hydrogen detection gallium nitride

CA087181452070
 Identifiers: anal films secondary ion mass spectroscopy analysis detection gallium nitride spectroscopy
 CAS Registry Numbers: 25617-97-4 7727-37-9 7782-44-7 7440-44-0 1333-74-0

CA087181451408
 Effect of energy selection on quantitative analysis in secondary ion microanalysis
 Author: Steele, Ian M., Hutcheon, Ian D., Solberg, Todd N., Smith, Joseph V., Clayton, Robert N.
 Location: Dep. Geophys. Sci., Univ. Chicago, Chicago, Ill.
 Section: CA079001, CA076XXX Pub Class: JOURNAL
 Journal: Int. J. Mass Spectrom. Ion Phys. Coden: IJMBY
 Publ: 77 Series: 23 Issue: 4 Pages: 293-305
 Identifiers: energy selection secondary ion microanalysis, mass spectroscopy secondary ion quant, plagioclase analysis

secondary ion microprobe, feldspar analysis secondary microprobe

CA087181451408
 Descriptors: Mass spectroscopy, secondary-ion, microprobe;
 Trace elements; plagioclase
 Identifiers: anal energy selection quant detn

CA087181447541
 Development and applications of the quadrupole-type secondary-ion mass spectrometer (QSIMS)
 Author: Kusao, Kenji, Yoshioka, Yoshiaki, Konishi, Fumiya
 Location: Cent. Res. Lab., Matsushita Electr. Ind. Co., Osaka, Japan
 Section: CA076011 Pub Class: JOURNAL
 Journal: Natl. Tech. Rep. (Matsushita Electr. Ind. Co., Osaka) Coden: NTRDAP Publ: 77 Series: 23 Issue: 1
 Pages: 14-23 Language: Japan
 Identifiers: secondary ion mass spectrometer, quadrupole type mass spectrometer

CA087181447541
 Descriptors: Mass spectrometers and spectrographs, quadrupole secondary-ion

CA087181447471
 Study of the nature of the mass spectra of positive and negative secondary ions knocked out by an argon(1+) ion beam from the surface of Group III-V semiconductors
 Author: Koval, A. G., Melnikov, V. N., Seryugina, A. S., Enukov, Yu. V., Bondar, S. A., Eroshkin, N. V.
 Location: Khar'k. Gos. Univ. Im. Gorkogo, Kharkov, USSR
 Section: CA076011 Pub Class: TECH REP
 Journal: Deposited Doc. Coden: D8DEP2 Publ: 75
 Issue: VINI 2783-75, Pages: 73-82 Language: Russ
 Avail: BLLD
 Identifiers: secondary ion mass spectra, aluminum gallium arsenide ion emission, phosphide gallium secondary ion emission

CA087181447471
 Descriptors: Mass spectra; ions in gases
 Identifiers: solid soln. gallium arsenide secondary emitted bombarded argon aluminum compounds properties Group III V semiconductors secondary emission
 CAS Registry Numbers: 22831-42-10 1303-00-00 12063-98-e 14791-09-6

DIALOG Filed: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 106 of 140) User:4930 18may78

CA08722171736V

Section: Semiquantitative analysis by secondary ion mass spectrometry
Journal: Author: Morgan, A. E., Werner, H. W.
Location: Philips G.m.b.H. Forschungslab. Hamburg, Hamburg, Ger.

Section: CA057001, CA0533XX, CA056XXX, CA073XXX, CA079XXX
Publ Class: JOURNAL
Journal: J. Microsc. Spectrosc. Electron. Coden: JMSEDI
Publ: 77 Series: 2 Issue: 3 Pages: 285-90
Identifiers: Glass analysis ion mass spectrometry, mineral analysis ion mass spectrometry, alloy analysis ion mass spectrometry

CA08722171736V

Section: Descriptors: Glass,oxide;Alloys,analysis;Minerals
Identifiers: detn secondary ion mass spectrometry borosilicate
CAS Registry Numbers: 7439-98-7 7429-90-5 7440-21-3 1309-48-4 1305-78-8 7440-32-6 7439-96-5 7440-02-0 7439-99-6 7440-50-8 7440-66-6 7440-67-7 7440-06-4 7439-92-1 7440-61-1 7440-42-8 7440-09-7 7439-95-4 7440-23-5 7782-44-7 7440-24-6

CA08720160438Y

Section: Use of an electron gun for insulator analysis with an ion analyzer
Author: Blanchard, B., Carrier, P., Hilleret, N., Marquerite, J. L., Rocco, J. C.
Location: CEM, Grenoble, Fr.
Section: CA076003 Publ Class: CONF PRDC
Journal: Colloq. Spectrosc. Int.. (Proc.), 18th Coden: 261FA4
Publ: 75 Series: 3, Pages: 918-24 Language: Fr

Section: Descriptors: Electron gun;Mass spectrometry,secondary-ion;Electric insulators and Dielectrics;Rare earth metals,gallate-ferrite compounds;ferrite substances;garnet
Identifiers: uses miscellaneous anal techniques isotope 11 insulating contg silicon dioxide laters
CAS Registry Numbers: 7631-86-9 7440-42-8D 7440-23-5

CA08720160438Y

Section: Descriptors: Electron guns;Mass spectrometry,secondary-ion;Electric insulators and Dielectrics;Rare earth metals,gallate-ferrite compounds;ferrite substances;garnet
Identifiers: uses miscellaneous anal techniques isotope 11 insulating contg silicon dioxide laters
CAS Registry Numbers: 7631-86-9 7440-42-8D 7440-23-5

CA08720157451S

Section: Surface structure of inorganic solid by secondary ion mass spectrometer
Author: Kyoto, Michihisa, Bando, Yoshichika
Location: Inst. Chem. Res., Kyoto Univ., Uji, Japan

Section: CA066000, CA067XXX, CA075XXX Publ Class: JOURNAL
Journal: Kagaku (Kyoto) Coden: KAKYAU Publ: 77
Series: 32 Issue: 2 Pages: 148-50 Language: Japan
Identifiers: crystal structure mass spectroscopy review, catalyst surface mass spectroscopy review

CA08720157451S

Section: Descriptors: Surface structure;Mass spectrometry,secondary-ion;Crystal structure determination
Identifiers: detn inorg solids inorganic surfaces

CA08720152699U

Section: Use of secondary-emission mass spectrometry to determine the mutual orientation of monomer units in macromolecules of fluorine-containing copolymers
Author: Tantsyrev, G. D., Povolotskaya, M. I., Kleimenov, N. A.
Location: Inst. Khim. Fiz., Moscow, USSR
Section: CA035006 Publ Class: JOURNAL
Journal: Vysokomol. Soedin., Ser. A Coden: VYSAAF
Publ: 77 Series: 19 Issue: 9 Pages: 2057-65
Language: Russ

Section: Identifiers: mass spectrometry polymer microstructure;fluoromethylene vinylidene fluoride copolymer, chlorotrifluoroethylene vinylidene fluoride copolymer
Identifiers: microstructure detn spectrometry fluorine contg polymers methods
CAS Registry Numbers: 25684-76-8 9010-75-7

CA08720152699U

Section: Descriptors: Chains,chemical;Mass spectrometry,secondary-ion
Identifiers: microstructure detn spectrometry fluorine contg polymers methods
CAS Registry Numbers: 25684-76-8 9010-75-7

CA08718145281Y

Section: Revised calculation of oxygen concentration in the LTE model
Author: Brown, J. D., Von Rosenstiel, A. P.
Location: Metaalinst., TNO, Apeldoorn, Meth.
Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCD8
Publ: 76 Series: 11, Pages: Paper No. 40, 3

Section: Identifiers: oxygen calcn local thermodynamic equil, secondary ion mass spectroscopy, mass spectroscopy oxygen calcn

CA08718145281Y

Section: Identifiers: analysis calcn concn local thermodyn equil model secondary ion mass spectroscopy
CAS Registry Numbers: 7782-44-7

DIALOG Filed: CA CONDENS/CASIA 77-VOL86(20)

(Copr. Am. Chem. Soc.) (Item 101 of 140) User:4930 18may78

- CA08722177151X
Study of the chemical emission in the copper-nickel, nickel-iron, iron-aluminum, and copper-aluminum alloys
Author: Limoge, Yves, Maurice, Francoise, Seran, Jean Louis
Location: CEN Saclay, CEA, Gif-sur-Yvette, Fr.
Section: CA079006 Publ Class: JOURNAL
Journal: J. Microsc. Spectrosc. Electron. Coden: JMSEDI
Publ: 77 Series: 2 Issue: 3 Pages: 323-5 Language: Fr
Identifiers: chem ion emission alloy, copper alloy chem ion emission, nickel alloy chem ion emission, iron alloy chem ion emission, aluminum alloy chem ion emission
- CA08722177151X
Descriptors: Alloys, analysis; Mass spectroscopy, secondary ion
Identifiers: nonbase chem emission
CAS Registry Numbers: 11101-28-3 11148-32-6 11114-60-6 11099-19-7
- CA08722176975G
Qualitative and quantitative analysis of surfaces by mass spectrometry of secondary ions
Author: Steiger, W
Location: Philos. Fak., Univ. Vienna, Vienna, Austria
Section: CA079001, CA076XXX Publ Class: TECH REP
Journal: Report Coden: D2REPU Publ: 75 Issue: INIS-mf-3379, Pages: 124 pp. Language: Ger
Citation: INIS Atomindex 1977, 8(15), Abstr. No. 319618
Avail: INIS
Identifiers: secondary ion mass spectroscopy analysis, ion microprobe mass spectroscopy analysis, surface analysis mass spectroscopy, peak switcher mass spectrometer
- CA08722176975G
Descriptors: Mass spectrometers and spectrographs, secondary-ion, peak switcher; Surface; Mass spectroscopy, secondary-ion
Identifiers: anal surfaces
- CA08722176333W
Evaluation of a cesium positive ion source for secondary ion mass spectrometry
Author: Storms, H. A., Brown, K. F., Stein, J. D.
Location: Vallecitos Nucl. Cent., Gen. Electr. Co., Pleasanton, Calif.
Section: CA076011, CA079XXX, CA080XXX Publ Class: JOURNAL
Journal: Anal. Chem. Coden: ANCHAM Publ: 77 Series: 49 Issue: 13 Pages: 2023-30
Identifiers: cesium ion source mass spectrometry, secondary ion mass spectrometry
- CA08722176333W
Descriptors: Mass spectroscopy, secondary-ion; Ion sources
- Identifiers: uses miscellaneous spectrometry cesium pos
CAS Registry Numbers: 18459-37-5
- CA08722176249Y
SIMS evaluation of contamination on ion-cleaned (100) indium phosphide substrates
Author: Dowsett, M. G., King, R. M., Parker, E. H. C.
Location: Dep. Phys., Sir John Cass Sch., Sci. Technol., London, Engl.
Section: CA076004 Publ Class: JOURNAL
Journal: Appl. Phys. Lett. Coden: APPLAB
Series: 31 Issue: 8 Pages: 529-31
Identifiers: indium phosphide substrate contamination, surface cleaning indium phosphide substrate, sputtering indium phosphide substrate cleaning
- CA08722176249Y
Descriptors: Sputtering
Identifiers: uses miscellaneous ion cleaning substrate contamination detn surface contaminant indium phosphide
CAS Registry Numbers: 22398-80-7 7782-44-7 7440-74-6 14791-69-6
- CA08722174506F
Investigation of the diffusional behavior of cesium in silicon carbide layers by mass-spectroscopy of secondary ions
Author: Pichlmayer, F.
Location: Philos. Fak., Univ. Vienna, Vienna, Austria
Section: CA071006 Publ Class: TECH REP
Journal: Report Coden: D2REPU Publ: 75 Issue: INIS-mf-3380, Pages: 112 pp. Language: Ger
Citation: INIS Atomindex 1977, 8(15), Abstr. No. 322332
Avail: INIS
Identifiers: cesium diffusion silicon carbide, mass spectroscopy secondary ion, coated fuel particle cesium 133
- CA08722174506F
Descriptors: Nuclear reactor fuels and fuel elements; Coating materials; Diffusion
Identifiers: properties silicon carbide layers mass spectroscopy secondary ions study cesium diffusional behavior through coatings 133 particles
CAS Registry Numbers: 7440-46-2 409-21-2 7440-46-2

DIALOG Filed: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 96 of 140) User:4930 18may78

CAS Registry Numbers: 7782-44-7 7440-47-3 14791-69-6
7440-47-3DP 11118-57-3D

CA08724193074E
Quantitation of secondary ion mass spectrometric images by microphotodensitometry and digital image processing
Author: Fassett, J. D., Roth, J. R., Morrison, G. H.
Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.
Section: CA079001 PubI Class: JOURNAL PubI: 77 Series: 49 Issue: 14 Pages: 2322-9
Identifiers: photog image quantitation mass spectroscopy, secondary ion mass spectroscopy quantitation, microphotodensitometry image quantitation mass spectroscopy, densitometry image quantitation mass spectroscopy, digital image processing mass spectroscopy, computer application mass spectroscopy

CA08724193074E
Descriptors: Mass spectroscopy, secondary-ion, microprobe; Computer application; Computer program; Densitometry, microphotography
Identifiers: quantitation photog images microphotodensitometry digital image processing spectroscopic IONPIX

CA08724192640Z
Use of the mass spectrometry of secondary ions method for studying processes on the surface and inside solids
Author: Koval, A. G.
Location: USSR
Section: CA076011 PubI Class: JOURNAL
Journal: Diagnostika Poverkhnosti Ionnyi Puchkami
DSJQUC PubI: 77 Pages: 27-51 Language: Russ
Citation: Ref. Zh., Fiz., E 1977, Abstr. No. 9E457
Identifiers: mass spectrometry surface solid, secondary ion mass spectrometry

CA08724192640Z
Descriptors: Mass spectroscopy, secondary-ion; Surface; Solids
Identifiers: studies spectrometry study

CA08724189849U
A study of the interaction of oxygen with chromium using ion bombardment induced photon and secondary ion emission
Author: MacDonald, R. J., Martin, P. J.
Location: Dep. Phys., Aust. Natl. Univ., Canberra, Aust.
Section: CA068003, CA076XXX PubI Class: JOURNAL
Journal: Surf. Sci. Coden: SUSCAS PubI: 77 Series: 67 Issue: 1 Pages: 237-50
Identifiers: mass spectroscopy secondary ion oxygen, oxygen chromium bombardment argon ion

CA08724189849U
Descriptors: Mass spectroscopy, secondary-ion; Photon
Identifiers: properties interaction chromium bombardment argon ions oxygen uses miscellaneous presence emission metals effect

CA08724189638Z
An ion-electron converter with scintillation counter
Author: Hinz, A., Rogaschewski, S.
Location: Sek. Phys., Humboldt-Univ., Berlin, E. Ger.
Section: CA065001, CA076XXX, CA079XXX PubI Class: JOURNAL
Journal: Exp. Tech. Phys. Coden: EXPPAL PubI: 77 Series: 25 Issue: 4 Pages: 353-9 Language: Ger
Identifiers: scintillation counter ion detector, secondary ion mass spectroscopy detector, reflection ion spectroscopy detector, spectroscopy ion reflection detector

CA08724189638Z
Descriptors: Ion beams; Radiation counters, scintillation; Mass spectrometers and spectrographs, secondary-ion; Spectrometers, ion-scattering
Identifiers: detector ions

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 90 of 140) User4930 18May78

CA08726210565K

Possibility of determining nickel and cobalt impurities on the surface of platinum by using secondary ion-ion emission
 Author: Kuchaev, V. L., Nikitushina, L. N., Kharkov, USSR
 Location: Khark'k. Gos. Univ. Im. Gork'ogo, Kharkov, USSR
 Section: CA079006 Publ Class: TECH REP
 Journal: Deposited Doc. Coden: DBDEP2 Publ: 75
 Issue: VINITI 2783-75, Pages: 34-7 Language: Russ
 Avail: BLLD
 Identifiers: nickel detn platinum surface, cobalt detn platinum surface, platinum surface analysis cobalt nickel, carbon monoxide analysis cobalt nickel, mass spectroscopy secondary ion

CA08726210555K

Identifiers: analysis detn carbon monoxide platinum surface secondary ion mass spectroscopy cobalt nickel carbonyl preconcn
 CAS Registry Numbers: 7440-48-4 7440-02-0 7440-06-4 630-08-0

CA08726210500K

Mass spectrometric apparatus with double analysis of secondary ions
 Author: Sidorenko, Yu. V., Koval, A. G., Kozlov, V. F.
 Location: Khark'k. Gos. Univ. Im. Gork'ogo, Kharkov, USSR
 Section: CA079002, CA076XXX Publ Class: TECH REP
 Journal: Deposited Doc. Coden: DBDEP2 Publ: 75
 Issue: VINITI 2783-75, Pages: 114-18 Language: Russ
 Avail: BLLD
 Identifiers: mass spectrometer secondary ion, double analysis secondary ion

CA08726210500K

Descriptors: Mass spectrometers and spectrographs, secondary-ion; Solids
 Identifiers: double anal ions layer spectroscopy

CA08726210494M

A comparison of quantitative models for SIMS analysis
 Author: Ruedenauer, F. G.
 Location: Oester. Studienges. Atomenerg. m.b.H., Vienna, Austria
 Section: CA079001 Publ Class: JOURNAL
 Journal: Mikrochim. Acta, Suppl. Coden: MKASAK Publ: 77
 Series: 7, Pages: 85-94
 Identifiers: quant model mass spectroscopy, secondary ion mass spectroscopy model

CA08726210494M

Descriptors: Mass spectroscopy, secondary-ion
 Identifiers: anal quant model

CA08726210479K

Applications of secondary ion mass spectrometry (SIMS)
 Author: Wanner, H. W.
 Location: Philips Res. Lab., Eindhoven, Neth.
 Section: CA079000 Publ Class: JOURNAL
 Journal: Mikrochim. Acta, Suppl. Coden: MKASAK
 Series: 7, Pages: 63-83
 Identifiers: review secondary ion mass spectroscopy

CA08726210479K

R
 Descriptors: Mass spectroscopy, secondary-ion
 Identifiers: anal

CA05724193083G

Computer aided material analysis
 Author: Nagai, Takeshi, Usui, Makoto, Naka, Toshi
 Location: Japan
 Section: CA079002 Publ Class: JOURNAL
 Journal: Fujitsu Sci. Tech. J. Coden: FUSTA4 Publ: 77
 Series: 13 Issue: 2 Pages: 93-107
 Identifiers: automation analytical instrument, gas chromatograph automation, gel chromatograph automation, mass spectrometer automation, IR spectrometer automation, ion microanalyzer automation, computer application analysis

CA08724193083G

Descriptors: Chromatography, gas, app.; Chromatography, gel, app.; Spectrometers, IR; Mass spectrometers and spectrographs; Mass spectrometers and spectrographs, secondary-ion, microprobe; Automation; Chromatography, gas; Chromatography, gel; Spectrochemical analysis, IR; Mass spectroscopy; Mass spectroscopy, secondary-ion, microprobe; Computer application
 Identifiers: instruments

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 85 of 140) User4930 18may78

CA08802014689K

Secondary ion mass spectrometry. A review of recent advances

Author: Evans, Charles A., Jr.

Location: Dep. Chem., Univ. Illinois, Urbana, Ill.

Section: CA076000, CA079XXX Publ Class: JOURNAL

Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDH

Publ: 77 Series: 12 Issue: Int. Conf. X-Ray

Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 128A-128F

Identifiers: review secondary ion mass spectrometry

CA08802014689K

Descriptors: Mass spectrometry, secondary-ion

CA08802012284A

The routine application of the SIMS/SEM/EDX combination to practical surface problems

Author: Fagiska, Edward J., Janocko, Philip B.

Location: Mater. Consultants Lab., Inc., USA

Section: CA066000, CA079XXX Publ Class: JOURNAL

Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDH

Publ: 77 Series: 12 Issue: Int. Conf. X-Ray

Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 76A-76B

Identifiers: review surface analysis combined method, mass spectrometry surface review, electron microscopy surface review, x ray analysis surface review

CA08802012284A

Descriptors: Mass spectrometry, secondary-ion; Microscopy, electron, scanning; X-ray analysis, energy-dispersive; Surface analysis; study combination methods including practical problems

CA08802007822V

Study of adhesive bonding and bond failure surfaces using ISS-SIMS

Author: Baun, W. L.

Location: Mech. Surf. Interactions Branch, Air Force Mater. Lab., Wright-Patterson AFB, Ohio

Section: CA036005, CA055XXX

Journal: Pap. Meet. - Am. Chem. Soc., Div. Org. Coat. Plast. Chem. Coden: ACOCAO

Publ: 76 Series: 36 Issue: 1

Pages: 344-9

Identifiers: ion scattering spectroscopy adhesive, mass spectrometry ion adhesive, adhesion metal spectroscopic characterization, epoxy adhesion spectroscopic characterization

CA08802007822V

Descriptors: Epoxy resins, uses and miscellaneous

Spectrometry, ion-scattering; Mass spectrometry, secondary-ion; Adhesion

Identifiers: config failure mechanism spectroscopic evaluation substances bonded base characterization titanium dioxide metal alloy

CAS Registry Numbers: 13463-67-7 37301-61-4 12616-84-1

CA08726210623C

Influence of charge effects on the analysis of insulating mineralogical samples by ion emission

Author: Stodtman, G., Dennebouv, R., Havette, A.

Location: Lab. Phys. Solides, Univ. Paris Sud, Orsay, Fr.

Section: CA079006 Publ Class: CONF PROC

Journal: Colloid. Spectrosc. Int., (Proc.), 18th Coden: 361FA4

Publ: 75 Series: 2, Pages: 590-5 Language: Fr

Publisher: G. A. M. S. Address: Paris, Fr

Identifiers: charge effect insulating mineral analysis, mass spectroscopy analysis charge effect, secondary ion mass spectroscopy mineral

CA08726210623C

Electric insulators and Dielectrics; Minerals; Mass Spectrometry, secondary-ion

Identifiers: anal charge effect insulating mineralogical samples

CA08726210566M

Use of secondary-ion mass spectroscopy for analysis of the composition of some nonconducting single crystals

Author: Chalkovskii, E. F., Evseev, V. M., Zhiglov, Yu. S.

Location: Khar'k. Gos. Univ. im. Gorkogo, Kharkov, USSR

Section: CA079006, CA076XXX Publ Class: TECH REP

Journal: Deposited Doc. Coden: D8DEP2

Issue: VINITI 2783-75, Pages: 54-8, Language: Russ

Avail: BLLD

Identifiers: secondary ion mass spectroscopy nonconducting, nonconducting single crystal analysis, alkali metal halide analysis, potassium chloride analysis, aluminum yttrium garnet analysis, ruby analysis

CA08726210566M

Mass Spectrometry, secondary-ion

Identifiers: analysis anal nonconducting single crystals

CAS Registry Numbers: 7447-40-7 12174-49-1 12005-21-9

DIALOG Filed: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 80 of 140) User4930 18may78

CA08802015393W

Combined SIMS/SEM for three dimensional surface analysis

Author: Sparrow, Gene R.
Location: 3M Cent., 3M Anal. Syst., St. Paul, Minn.
Section: CA079000, CA066XXX Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 78A-78B

Identifiers: review three dimensional surface analysis, secondary ion mass spectroscopy review, mass spectroscopy surface analysis review, scanning electron microscopy surface review, electron microscopy surface analysis review

CA08802015393W R

Descriptors: Mass spectroscopy, secondary-ion microscopy, electron, scanning: Surface structure
Identifiers: combined 3 dimensional anal

CA08802014947T

Irradiation effects in SIMS analysis, their consequences on depth resolution

Author: Limoge, Y., Seguin, R., Seran, J. L.
Location: CEN. CEA, Saclay, Fr.
Section: CA076011, CA079XXX Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 136A-136B

Identifiers: secondary ion mass spectroscopy irradiation, silicon secondary ion mass spectroscopy, silica secondary ion mass spectroscopy, aluminum secondary ion mass spectroscopy, nickel secondary ion mass spectroscopy, copper secondary ion mass spectroscopy

CA08802014947T

Descriptors: Mass spectroscopy, secondary-ion effects depth resolution effect anal relation
Identifiers: properties film substrate systems irradiation CAS Registry Numbers: 7440-21-3 7631-86-9 7440-02-0 7429-90-5 7440-50-8

CA08802014946S

Improved SIMS depth profiles by control of sample surface potential

Author: Whalley, T. A., Conrad, R. L., Fralick, R. D.
Location: Appl. Res. Lab., Sunland, Calif.
Section: CA076011, CA079XXX Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 135A-135E

Identifiers: secondary ion mass spectroscopy, surface potential control mass spectroscopy

CA08802014946S

Descriptors: Mass spectroscopy, secondary-ion; Electric potential, surface

Identifiers: control sample improved depth profiles samples

CA08802014945R

DIDA - a multipurpose scanning ion microprobe

Author: Wittraack, K.
Location: Phys.-Tech. Abt., Ges. Strahlen- und Umweltforsch. m.b.H., Neuherberg, Ger.
Section: CA076011, CA079XXX Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 131A-131C
Identifiers: scanning ion microprobe DIDA, mass spectrometer secondary ion

CA08802014945R

Descriptors: Mass spectrometers and spectrographs, secondary-ion; Analysis, ion microprobe; Biological materials
Identifiers: multipurpose scanning based app study

CA08802014944Q

Extension of SEM capabilities with SIMS

Author: Nauman, D. A.
Location: West. Electr., Indianapolis, Indiana
Section: CA076011 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 77A-77E

Identifiers: scanning electron microscopy SIMS, secondary ion mass spectroscopy microscopy, film circuit microscopy spectroscopy

CA08802014944Q

Descriptors: X-ray analysis, energy-dispersive; Electric circuits, film; Microscopes, scanning electron; Mass spectroscopy, secondary-ion

Identifiers: combined study thin spectroscopy

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 75 of 140) User4930 18may78

CA08803018515Y
 Empirical standards for quantitative analysis of biological tissues by secondary ion mass spectrometry
 Author: Bellhorn, Margaret B., File, David M.
 Location: Albert Einstein Coll. Med., Bronx, N. Y.
 Section: CA0090004 Publ Class: JOURNAL
 Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSD03
 Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 137A-137B
 Identifiers: mass spectrometry secondary ion, biol tissue mass spectrometry, trace element mass spectrometry

CA08803018515Y
 Descriptors: Mass spectroscopy, secondary-ion; Trace elements; Gelatins analysis; Standard substances
 Identifiers: detn biol material spectrometry film stds lipid-sol. derivs. compounds tissue vol metal tissues films std
 CAS Registry Numbers: 7439-93-2 7440-17-7 7440-24-6 7440-50-8 7440-62-2D

CA08802015529V
 Analyzer with ion microprobe
 Author: Tamura, Hifumi, Ishitani, Toru, Hirano, Tokuro
 Location: Japan
 Section: CA079002 Publ Class: PAT
 Journal: Gen. Offen. Coden: GWXXBX Publ: 770728
 Pages: 19 pp.
 Identifiers: insulator analysis ion microprobe, film thin analysis ion microprobe, surface charging ion microprobe, ion microprobe beam selection app
 Patent No: 2659385 Applic No: 76/4928 Date: 760121
 Class: G01N23/225 Country: Japan.
 Assignee: Hitachi, Ltd.

CA08802015529V
 Descriptors: Electric insulators and Dielectrics; Films, thin; Mass spectroscopy, secondary-ion; Mass spectrometers and spectrographs, secondary-ion
 Identifiers: anal app primary beam selection nonconducting selector

CA08802015527T
 Analysis using an iron microanalyzer
 Author: Aizawa, Masayoshi, Okajima, Yoshiaki
 Location: Japan
 Section: CA079001 Publ Class: PAT
 Journal: Japan. Kokai Coden: JKKXAF Publ: 770726
 Pages: 4 pp.
 Identifiers: secondary ion mass spectroscopy analysis, halogen scavenger mass spectroscopy, bromine scavenger mass

spectroscopy
 Patent No: 77 89381 Applic No: 76/5734 Date: 760121
 Class: G01N23/221
 Assignee: Hitachi, Ltd.

CA08802015527T
 Descriptors: Halogens; Mass spectroscopy, secondary-ion
 Identifiers: uses miscellaneous scavenger hydrogen addn ionization chamber anal
 CAS Registry Numbers: 7726-95-6

CA08802015506K
 Some results on the quantitative analysis of silicates
 Author: Stodtman, G., Havette, A.
 Location: Lab. Phys. Solide, Univ. Paris-Sud, Orsay, Fr.
 Section: CA079006 Publ Class: JOURNAL
 Journal: J. Microsc. Spectrosc. Electron. Coden: JMSEDI
 Publ: 77 Series: 2 Issue: 1 Pages: 81-5 Language: Fr
 Identifiers: silicate rock analysis mass spectroscopy, change effect rock analysis, secondary ion mass spectroscopy rock

CA08802015506K
 Descriptors: Rocks, silicate; Mass spectroscopy, secondary-ion
 Identifiers: anal change effect

CA08802015407D
 Correction of secondary ion intensity by a new total ion monitoring method
 Author: Kobayashi, M., Suzuki, K., Yukawa, K., Tamura, H., Ishitani, T.
 Location: Fund. Res. Lab., Nippon Steel Corp., Kawasaki, Japan
 Section: CA079001 Publ Class: JOURNAL
 Journal: Rev. Sci. Instrum. Coden: RSINAK Publ: 77
 Series: 48 Issue: 10 pages: 1298-302
 Identifiers: microprobe analysis secondary ion monitor, steel fracture surface microprobe analysis, shadow mask ion microprobe analysis

CA08802015407D
 Descriptors: Surface; Mass spectroscopy, secondary-ion; Mass spectrometers and spectrographs, secondary-ion
 Identifiers: anal total monitoring method surfaces monitor

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20) (Copr. Am. Chem. Soc.) (Item 70 of 140) User4930 18may78

CA088040310450
Measurement of depth profiles of boron atoms implanted in polycrystalline silicon by IFA
Author: Wang, Suk Tai, Shinozu, Ryuchi, Kosnikawa, Takamori
Location: Dep. Appl. Phys., Osaka Univ., Osaka, Japan
Section: CA076013 Pub. Class: JOURNAL
Journal: Technol. Rep. Osaka Univ. Coden: TRQJAI Publ: 77
Series: 27 Issue: 1354-1393 Pages: 327-34
Identifiers: boron depth profile polycryst silicon, secondary ion mass spectrometry implant

CA088040310450
Descriptions: Mass spectroscopy, secondary-ion
Identifiers: properties depth profile atoms implanted polycryst silicon boron atom implantation studies accuracy
CAS Registry Numbers: 7440-42-8 7440-21-3

CA088040310225
A new secondary ion emission microanalyzer
Author: Rouberol, J. M., Lepageur, M., Autier, B., Gourgout, J. M.
Location: Soc. Cie. Appl. Mec. Electron. Cinema At., Courbevoie, France
Section: CA076011, CA079XXX Pub. Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 133A-133D
Identifiers: secondary ion mass spectrometer, microanalyzer secondary ion, analyzer micro secondary ion

CA088040310225
Descriptions: Mass spectrometers and spectrographs, secondary-ion analysis
Identifiers: microanalyzer based

CA08804030222H
Spectrometer for Auger electrons and secondary ions
Author: Mizutani, Karel, Vasina, Petr, Salek, Robert, Fiser, Jan, Stulik, Dusan
Location: Univ. Pric. Brno, Czech
Section: CA073008, CA075XXX Pub. Class: JOURNAL
Journal: Cesk. Cas. Fyz. Coden: CKCFAM Publ: 77
Series: 27 Issue: 5 Pages: 490-4 Language: Czech
Identifiers: spectrometer Auger secondary ion

CA08804030222H
Descriptions: Mass spectrometers and spectrographs, secondary-ion, spectrometers, Auger
Identifiers: combined Auger

CA08804028171X
The use of secondary ion mass spectrometry for studies of oxygen adsorption and oxidation
Author: Witnback, K.
Location: Phys.-Tech. Abt., Ges. Strahlen- und Umweltforsch. m.B.H., Neuenberg, Germany
Section: CA066003 Pub. Class: JOURNAL
Journal: Surf. Sci. Coden: SUSCAS Publ: 77
Series: 68, Pages: 118-29
Identifiers: secondary ion mass spectroscopy adsorption, adsorption oxygen mass spectroscopy, oxid silicon tantalum mass spectroscopy, silicon adsorption oxygen oxid, tantalum adsorption oxygen oxid

CA08804028171X
Descriptions: Mass spectroscopy, secondary-ion, adsorption, oxidation
Identifiers: properties silicon tantalum oxid relation oxygen study
CAS Registry Numbers: 7782-44-7 7440-21-3 7440-25-7

CA08804027165M
Investigation of platinum films on yttrium-stabilized zirconia
Author: Lawson, K. E., Rusnak, R. M.
Location: Mater. Chem. Dep., Bendix Res. Lab., Southfield, Mich.
Section: CA059002, CA066XXX Pub. Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 75A-75B
Identifiers: platinum oxid exhaust gas analyzers

CA08804027165M
Descriptions: Exhaust gases
Identifiers: analysis oxygen analyzers contg anal platinum oxide formation uses miscellaneous yttria stabilized support coating, sensing concn detn films zirconia film
CAS Registry Numbers: 7440-06-4 1314-23-4 12035-82-4 1314-15-4 7782-44-7 1314-36-9

DIALOG File4: CA CONDENS/CASIA 77-VOL88(10) (Copr. Am. Chem. Soc.) (Item 65 of 140) User4930 18may78

CA088060443798

A computerized CAMECA ion probe system

Author: Roth, James R.; Morrison, G. H.

Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.

Section: CA079002 Publ Class: JOURNAL

Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB

Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 48A-18C

Identifiers: computerized ion microprobe

CA088060443799

Descriptors: Mass spectroscopy, secondary ion microprobe, mass spectrometers, and spectrographs, secondary ion microprobe, computerized, computer application

CA088060443798

Quantitative ion microprobe mass analysis using negative secondary ions

Author: Brown, J. D.; Short, James M.

Location: Fac. Eng. Sci., Univ. West, Ont., London, Engl.

Section: CA079001 Publ Class: JOURNAL

Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB

Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 138A-138B

Identifiers: computer program ion microprobe analysis, negative secondary ion mass analysis

CA088060443799

Descriptors: Mass spectroscopy, microprobe, computer program

Identifiers: measuring negative secondary ion spectra quantitative analysis

CA08806043952W

Secondary ion mass spectroscopy (SIMS)

Author: Sroubek, Zdenek; Zavadil, Jiri; Kubec, Frantisek

Location: Ustav Radiotech. Elektron., CSAV, Prague, Czech.

Section: CA076000 Publ Class: JOURNAL

Journal: Czech. Cas. Fyz. Coden: CKCFAH

Publ: 77 Series: 2/ Issue: 5 Pages: 451-9 Language: Czech

Identifiers: review secondary ion mass spectroscopy

CA08806043952W

Mass spectroscopy, secondary ion, films, thin; surface

Descriptors: Mass spectroscopy, secondary ion, films, thin; surface

Identifiers: solid state analysis

CA08806042868M

Use of Auger electron spectroscopy profile analysis and secondary ion mass spectrometry in the study of changes in

silice layer composition

Author: Schneider, Helga

Location: Inst. Mater., Festkoerperforsch., Kernforschungsge-

nt, Karlsruhe, Karlsruhe, Ger.

Section: CA071005, CA0733X1 Publ Class: JOURNAL

Journal: Mikroschim. Acta Coden: MIACAO

Publ: 77 Series: 2 Issue: 5-6 Pages: 437-47 Language: Ger.

Identifiers: Auger electron spectroscopy profile analysis, secondary ion mass spectrometry, surface layer composition change, sodium corrosion mass transfer, Stellite 6B corrosion sodium, reactor material corrosion sodium

CA08806042868M

Descriptors: Mass transfer; Nuclear reactors, breeder, liq. metal fast; Electron emission spectroscopy, Auger; Mass spectrometry, secondary ion

Identifiers: base surface layer composition changes exposure sodium reactions corrosion Stellite 6B relation study

CAS Registry Numbers: 12671-96-4 7440-23-5

CA08806039791A

Study of the mass spectra of secondary products of natural mineral deposits using the MI-1305 Mass Spectrometer

Author: Chupalaev, Ch. M.; Magomedov, Sh. A.; Guseinov, A. A.; Bitymurzaev, A. S.

Location: Khark'k. Gos. Univ., Im. Gork'ogo, Kharkov, USSR

Section: CA053001, CA076XXX Publ Class: TECH REP

Journal: Deposited Doc. Coden: D8DEP2

Publ: 75 Issue: VINITI 2783-75, Pages: 107-10 Language: Russ

Identifiers: quartz ion mass spectrum, calcite ion mass spectrum, microcline ion mass spectrum, phlogopite ion mass spectrum, mineral ion mass spectrum

CA08806039791A

Descriptors: Mass spectra

Identifiers: properties electron bombarded minerals

CAS Registry Numbers: 14808-60-7 13397-26-7 12251-43-3 12251-58-0

DIALOG File# CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 50 of 140) User4930 18May78

CA0808057935E

Quantitative analysis of high temperature alloys with an ion microanalyzer
 Author: Okazima, Yoshiaki, Aizawa, Yukiyo
 Location: Hitachi Res. Lab., Hitachi Ltd., Hitachi, Japan
 Section: CA079006 Publ Class: JOURNAL
 Journal: Shitsuyo Bunseki Coden: SHIBAK Publ: 77
 Series: 25 Issue: 1 Pages: 91-7
 Identifiers: aluminum detn mass spectroscopy, cobalt detn mass spectroscopy, chromium detn mass spectroscopy, iron detn mass spectroscopy, manganese detn mass spectroscopy, niobium detn mass spectroscopy, nickel detn mass spectroscopy, titanium detn mass spectroscopy, mass spectroscopy secondary ion alloy, ion microprobe mass spectroscopy alloy, alloy analysis mass spectroscopy

CA0808057935E

Descriptors: Alloys, analysis; Mass spectroscopy, secondary-ion
 Identifiers: detn high temp
 CAS Registry Numbers: 7439-96-5 7440-02-0 7440-47-3
 7439-89-6 7440-48-7 7440-32-6 7429-90-5 7440-03-1

CA0808057282Q

Plenary lecture: ion microscopy and surface analysis
 Author: Morrison, G. H.
 Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.
 Section: CA076000, CA066XXX Publ Class: CONF PROC
 Journal: Character. Met. Polym. Surf. (Symp.)
 37DMA7 Publ: 77 Series: 1, Pages: 351-66 Meeting
 Date: 76
 Publisher: Academic Address: New York, N. Y
 Avail: Lee, Lieng-Huang
 Identifiers: review ion microscopy mass spectroscopy, surface analysis mass spectroscopy review

CA0808057282Q

Descriptors: Mass spectroscopy, secondary-ion; Microscopy, ion
 Identifiers: surface anal spectrometry

CA0808054121A

Quantitative analysis of glasses by secondary ion mass spectrometry
 Author: Newbury, Dale E.
 Location: Anal. Chem. Div., Natl. Bur. Stand., Washington, D. C.
 Section: CA079001, CA079XXX Publ Class: JOURNAL
 Journal: Proc., Annu. Conf. - Microbeam Anal. Soc.
 PCSCD8 Publ: 77 Series: 12 Issue: Int. Conf. X-Ray
 Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc.
 Pages: 140A-140F
 Identifiers: glass analysis mass spectrometry

CA0808054121A

Descriptors: Glass, oxide
 Identifiers: anal secondary ion mass spectrometry

CA0808054121A

Matrix species ratio method for quantitative ion probe analysis
 Author: Ganjei, John D., Leta, Daniel P., Roth, James R., Morrison, George H.
 Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.
 Section: CA079006 Publ Class: JOURNAL
 Journal: Proc., Annu. Conf. - Microbeam Anal. Soc.
 PCSCD8 Publ: 77 Series: 12 Issue: Int. Conf. X-Ray
 Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc.
 Pages: 139A-139C
 Identifiers: matrix species ratio ion microprobe, quantitative ion microprobe analysis

CA0808054121A

Descriptors: Mass spectroscopy, secondary ion; microprobe
 Identifiers: matrix species ratio method

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 55 of 140) User:4930 18may78

CA088100685855

Quantitative ion probe measurement using matrix ion species ratios

Author: Ganjel, J. D., Leta, D. P., Morrison, G. H.
Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.Section: CA079006 Publ Class: JOURNAL
Journal: Anal. Chem. Coden: ANCHAM Publ: 78 Series: 50 Issue: 2 Pages: 285-90

Identifiers: ion microprobe anal quant, calibration quant ion microprobe analysis, matrix ion species ratio microprobe, steel analysis ion microprobe, alloy analysis ion microprobe, aluminum alloy analysis ion microprobe, copper alloy analysis ion microprobe

CA088100685855

Descriptons: Mass spectroscopy, secondary-ion, microprobe; ion beams, microprobes
Identifiers: analysis anal matrix species ratios empirical calibrations Aluminum alloy nonbase Copper quant calibration
CAS Registry Numbers: 12597-69-2

CA088100683112

Ion-implanted selenium profiles in gallium arsenide as measured by secondary ion mass spectrometry
Author: Lidow, A., Gibbons, J. F., Deline, V. R., Evans, C. A., Jr.Location: Stanford Electron. Lab., Stanford, Calif.
Section: CA076013 Publ Class: JOURNAL
Journal: Appl. Phys. Lett. Coden: APPLAS Publ: 78 Series: 32 Issue: 1 Pages: 15-17

Identifiers: selenium implant gallium arsenide

CA088100683112

Descriptons: Diffusion
Identifiers: properties implantation profile selenium annealing effect gallium arsenide implants
CAS Registry Numbers: 1303-00-0 7782-49-2

CA08810064941G

Study of adhesive bonding and bond failure surface using ISS-SIMS

Author: Baun, W. L.
Location: Mech. Surf. Interactions Branch, Air Force Mater. Lab., Wright-Patterson AFB, OhioSection: CA056009 Publ Class: CONF PROC
Journal: Character. Met. Polym. Surf., (Symp.) Coden: 370MA7 Publ: 77 Series: 1, Pages: 375-90 Meeting Date: 76Publisher: Academic
Avail: Lee, Lieng-Huang
Identifiers: adhesive bonding failure aluminum, surface adhesive bonding failure

CA08810064941G

Descriptons: Adhesives; Surface anal.
Identifiers: bonding aluminum alloys failure relation base
CAS Registry Numbers: 37301-61-4 12616-84-1

CA08803062593W

Cationization of organic molecules in secondary ion mass spectrometry

Author: Grade, H., Winograd, N., Cooks, R. G.
Location: Dep. Chem., Purdue Univ., West Lafayette, Indiana
Section: CA034002, CA022XXX Publ Class: JOURNAL
Journal: J. Am. Chem. Soc. Coden: JACSAI Publ: 77 Series: 99 Issue: 23 Pages: 7725-6

Identifiers: secondary ion mass spectra amino acid, cationization secondary ion mass spectra, metal amino acid mass spectra

CA08803062593W

Descriptons: Amino acids, properties; Metals, uses and miscellaneous; Mass spectra, secondary ion
Identifiers: spectrum silver platinum aminobenzoic
CAS Registry Numbers: 150-13-0 63-91-2 7440-22-4 7440-06-4 7447-41-8

CA08808057936F

Quantitative analysis of compound semiconductors with an ion microanalyzer

Author: Oshima, Masaharu
Location: Musashino Electr. Commun. Lab., Nippon Telegr. and Teleph. Public Corp., Tokyo, Japan
Section: CA079006 Publ Class: JOURNAL
Journal: Shitsuryo Bunseki Coden: SMIBAK Publ: 77 Series: 25 Issue: 1 Pages: 99-108 Language: Japan

Identifiers: silicon detn mass spectroscopy, gallium arsenide analysis silicon, semiconductor analysis mass spectroscopy, secondary ion mass spectroscopy, ion microanalyzer mass spectroscopy

CA08808057936F

Identifiers: analysis detn gallium arsenide secondary ion mass spectroscopy indium impurity solid solns. compounds
CAS Registry Numbers: 7440-55-3 7440-38-2 7439-96-5 7440-23-5 7439-95-4 7429-90-5 7440-21-3 7440-09-7 7440-70-2 7440-47-3 7439-99-6 7440-32-6 7440-02-0 7440-50-8 1303-00-0 1303-11-30

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 50 of 140) User-4930 18may78

- CA08812079618F
Simultaneous SIMS-AES measurements for partially oxidized aluminum surfaces
Author: Narusawa, T., Komiya, S.
Location: ULVAC Corp., Chigasaki, Japan
Section: CA066003, CA067XXX Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JNA6
Publ: 77 Series: 2, Pages: 1329-32
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: aluminum partially oxidized surface, Auger oxidized aluminum, mass spectroscopy oxidized aluminum
- CA08812079618F
Descriptors: Mass spectroscopy, secondary-ion; Electron emission spectroscopy; Auger; Oxidation, surface
Identifiers: properties partially oxidized Auger study aluminum
CAS Registry Numbers: 7429-90-5
- CA08812079607B
SIMS study of adsorption on nickel (110), (100) and (111)
Author: Barber, M., Bordoli, R. S., Vickerman, J. C., Wolstenholme, J.
Location: Dep. Chem., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA066003, CA076XXX Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JNA6
Publ: 77 Series: 2, Pages: 983-6
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: nickel adsorption mass spectroscopy, secondary ion mass spectroscopy adsorption
- CA08812079607B
Descriptors: Mass spectroscopy, secondary-ion; Adsorption
Identifiers: properties gases crystal faces study nickel
CAS Registry Numbers: 7440-02-0 630-08-0 1333-74-0 74-85-1
- CA08812079600U
A comparison of the adsorption of oxygen and carbon monoxide on molybdenum using low-energy SIMS and EID
Author: Dawson, P. H.
Location: Div. Phys., Natl. Res. Council, Ottawa, Ont.
Section: CA066003 Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JNA6
Publ: 77 Series: 2, Pages: 885-8
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: adsorption oxygen carbon monoxide molybdenum, secondary ion mass spectroscopy adsorption, desorption oxygen carbon monoxide molybdenum

- CA08812079600U
Descriptors: Adsorption; Mass spectroscopy, secondary-ion; Desorption; Electron-stimulated; Electron beam; Chemical and physical effects
Identifiers: properties molybdenum study carbon monoxide oxygen
CAS Registry Numbers: 7782-44-7 630-08-0 7439-98-7
- CA08811073781G
Study of primary and secondary acetaldehyde photoionization processes by the method of photoion-photoelectron coincidences
Author: Golovin, A. V., Sergeev, Yu. L., Akopyan, M. E., Vilesov, F. I.
Location: Leningr. Gos. Univ., Leningrad, USSR
Section: CA022002 Publ Class: JOURNAL
Journal: Teor. Eksp. Khim. Coden: TEKHA4 Publ: 77
Series: 13 Issue: 6 Pages: 769-73 Language: Russ
Identifiers: acetaldehyde photoionization, ion acetaldehyde mass spectra
- CA08811073781G
Descriptors: Ions in gases; Mass spectra; Ionization potential and energy
Identifiers: reactions photoionization spectrum acetaldehyde produced
CAS Registry Numbers: 75-07-0
- CA08810068630C
High energy implantation profiles of boron in silicon and gallium arsenide, and arsenic in silicon by ion microanalysis
Author: Gauneau, M.
Location: Cent. Natl. Etud. Telecommun., Lannion, Fr.
Section: CA079006, CA076XXX Publ Class: JOURNAL
Journal: Analusis Coden: ANLSCY Publ: 77 Series: 5
Issue: 9 Pages: 357-65 Language: Fr
Identifiers: boron concn profile detn semiconductor, silicon analysis boron arsenic, gallium arsenide analysis boron, arsenic concn profile detn silicon, ion microprobe analysis semiconductor, secondary ion mass spectroscopy semiconductor
- CA08810068630C
Identifiers: analysis detn concn profile gallium arsenide silicon ion microprobe anal arsenic boron
CAS Registry Numbers: 7440-42-8 7440-21-3 1303-00-0 7440-38-2

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DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. An. Chem. Soc.) (Item 45 of 140) User:4930 18may78

- CA08812082686G
An investigation of thin insulating films using SIMS analysis
Author: Litovchenko, V. G., Romanova, G. P., Marchenko, R.
Location: Inst. Semicond., Kiev, USSR
Section: CA076013, CA075XXX Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6
Publ: 77 Series: 3, Pages: 2047-50
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: silicon silica film structure, mass spectra
silicon silica, annealing silicon silica film
- CA08812092686G
Descriptons: Mass spectra,secondary-ion;Interface;Surface
structure
Identifiers: properties silicon silica effect annealing
system
CAS Registry Numbers: 7631-86-9 7440-21-3
- CA08812082243K
Ion imaging in secondary ion mass spectrometry
Author: Newbury, Dale E.
Location: Inst. Mater. Res., Natl. Bur. Stand., Washington,
D. C.
Section: CA076000 Publ Class: JOURNAL
Journal: Proc. Soc. Photo-Opt. Instrum. Eng. Coden:
SPIEJ Publ: 77 Series: 104 Issue: Multidisciplinary
Microsc. Pages: 85-9
Identifiers: review ion imaging SIMS, secondary ion mass
spectrometry review
- CA08812082243K R
Descriptons: Mass spectroscopy,secondary-ion
Identifiers: imaging
- CA08812081931W
Molecular beam epitaxy of gallium arsenide and simultaneous
characterization by RHEED, SIMS, and AES techniques
Author: Ploog, K., Fischer, A., Rausch, F.
Location: Max-Planck-Inst. Festkoerperforsch., Stuttgart,
Ger.
Section: CA075001 Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6
Publ: 77 Series: 2, Pages: 1705-8
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: gallium arsenide epitaxy simultaneous
characterization, tin doped arsenide epitaxy characterization
- CA08812081931W
- Descriptons: Epitaxy properties mol beam simultaneous
Identifiers: characterization gallium arsenide contg
CAS Registry Numbers: 1303-00-0 7440-31-5
- CA08812081870A
An improved MBE apparatus permitting the use of Auger SIMS
LEED and RHEED analytical methods in the same U.H.V. vessel
Author: Boucharb, P., Buisson, C.
Location: Surf. Anal. Dep., RIBER S. A., Rueil-Malmaison,
Fr.
Section: CA075000 Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6
Publ: 77 Series: 3, Pages: 2379-81
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: Auger spectrometer, epitaxy review, mass
spectrometer epitaxy review, electron diffractometer epitaxy
review
- CA08812081870A R
Descriptons: Epitaxy;Spectrometers;Auger;Mass spectrometers
and spectrographs,secondary-ion;Diffractionmeters,electron
Identifiers: app mol beam control
- CA08812081439S
Auger analysis and ion mass spectrometry study of electron
induced damages
Author: Le Gressus, C., Pellerin, F., Blanchard, B.,
Okuzumi, H.
Location: CEN, CEA, Saclay, Fr.
Section: CA073003 Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6
Publ: 77 Series: 3, Pages: 2323-5
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: Auger spectroscopy electron damage, ion mass
spectroscopy electron damage
- CA08812081439S
Descriptons: Electron emission spectroscopy;Auger;Mass
spectroscopy;ion;Electron beam,chemical and physical effects;
Electron emission spectroscopy,secondary
Identifiers: properties Auger spectra study damage induced
studies interactions materials
CAS Registry Numbers: 7631-86-9 7440-57-5

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DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 40 of 140) User4930 18may78

CA08812083154U

Errors observed in quantitative ion microprobe analysis
Author: Newbury, D. E., Heinrich, K. F. J., Myklebust, R. L.
Location: Anal. Chem. Div., Natl. Bur. Stand., Washington, D. C.

Section: CA079006, CA057XXX Publ Class: TECH REP Publ: 76
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAB
Issue: STP 596, Surf. Anal. Tech. Metall. Appl., Pages: 101-113 Meeting Date: 75

Identifiers: error quant ion microprobe analysis, local thermodyn equil microprobe analysis, secondary ion mass spectroscopy error, steel analysis ion microprobe error, glass analysis ion microprobe error

CA08812083154U

Descriptors: Mass spectroscopy, secondary-ion, microprobe;
Error
Identifiers: quant anal errors

CA08812083112D

Ion microprobe analysis of plagioclase feldspars
(CaNaAl₂Si₂Si₃-xO₈) for major and minor elements
Author: Steele, Ian M., Hutcheon, Ian D., Solberg, Todd N., Clayton, Robert N., Smith, Joseph V.
Location: Enrico Fermi Inst., Univ. Chicago, Chicago, Ill.

Section: CA079006 Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Issue: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 180A-180F

Identifiers: plagioclase analysis ion microprobe, feldspar analysis ion microprobe

CA08812083112D

Descriptors: plagioclase; feldspars; Mass spectroscopy, secondary-ion, microprobe
Identifiers: analysis detn detection electron anal
CAS Registry Numbers: 7440-70-2 7440-23-5
7440-21-3 7439-95-4 7439-89-6 7440-42-8 7439-93-2 7439-96-5
7723-14-0 7430-24-6 7440-32-6 7440-62-2 7440-09-7 7440-39-3

CA08812083089B

Quantitative SIMS studies with a uranium matrix
Author: Morgan, A. E., Wernner, M. W.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA079006 Publ Class: JOURNAL
Journal: Surf. Sci. Coden: SUSCAS
Issue: 2 Pages: 687-9J
Identifiers: uranium analysis impurity mass spectroscopy, impurity detn uranium mass spectroscopy, secondary ion mass spectroscopy uranium, ion microprobe mass spectroscopy uranium

CA08812083089B

Identifiers: analysis impurity detn secondary ion mass spectroscopy uranium
CAS Registry Numbers: 7440-61-1 7429-90-5 7440-21-3 7440-47-3 7439-96-5 7439-89-6 7440-02-0 7440-48-4 7440-50-8 7440-67-7 7439-98-7

CA08812083033D

A computer-based recording system for high mass-resolution ion-probe analysis
Author: Long, J. V. P., Astill, D. M., Coles, J. N., Reed, S. J. B.

Location: Ion Probe Unit, Natl. Environ. Res. Council, Cambridge, Engl.
Section: CA079002 Publ Class: JOURNAL
Journal: Proc. Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Issue: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 132A-132C

Identifiers: computerized recording ion probe analysis, magnetic field control ion probe

CA08812083033D

Descriptors: Mass spectrometers and spectrographs, secondary-ion, microprobe; Recording apparatus; Computer application
Identifiers: based system anal high resolu systems

CA08812082687H

SIMS and electron microscopy study of the transition layer for silicon deposited on a sapphire substrate
Author: Triline, J., Blanchard, B., Borel, J.
Location: Lab. Electron. Technol. Inf., CEN, Grenoble, Fr.
Section: CA076013 Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JNAG
Issue: 1, Pages: 541-4
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: silica sapphire transition layer

CA08812082687H

Descriptors: Interface
Identifiers: properties sapphire electron microscopic study silicon
CAS Registry Numbers: 7440-21-3 1317-82-4

DIALOG File: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 35 of 140) User4930 10may78

- CA08814095201V
Study of oxygen-covered metal surfaces by SIMS, AES, and ESCA
Author: Benninghoven, A., Bispinck, H., Ganschow, O., Wiedmann, L.
Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
Section: CA066003, CA067XXX Publ Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUNAG
Publ: 77 Series: 3, Pages: 2577-80
Publisher: R. Dobrozemsky Address: Vienna, Austria
Identifiers: mass spectroscopy oxidn metal, Auger oxidn metal, ESCA oxidn metal, oxidized metal, surface spectroscopy, oxygen covered metal surface spectroscopy
- CA08814095201V
Descriptors: Metals, properties; Oxidation; Chemisorbed substances; Mass spectroscopy, secondary-ion
Identifiers: surface electron photoelectron oxygen covered surfaces
CAS Registry Numbers: 7782-44-7 7440-32-6 7439-98-7 7440-48-4
- CA08814095196X
Simultaneous AES-SIMS measuring method
Author: Kaus, G., Kempf, J.
Location: IBM Ger., Sindelfingen, Ger.
Section: CA066003, CA073XXX, CA076XXX
PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUNAG
Publ: 77 Series: 3, Pages: 2277-80
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: Auger spectroscopy simultaneous mass spectroscopy, secondary ion mass spectroscopy Auger, surface analysis Auger mass spectroscopy
- CA08814095196X
Descriptors: Electron emission spectroscopy, Auger; Mass spectroscopy, secondary-ion; Surface; Desorption, electron-stimulated; Electron beam, chemical and physical effects
Identifiers: simultaneous Auger anal ions study
- CA08814095195W
Quantitative surface studies with x-ray photoelectron spectroscopy (XPS) and secondary ion mass spectroscopy (SIMS)
Author: Winograd, N., Shepard, A., Hewitt, R., Baitinger, W., Delgass, W.
Location: Sch. Chem. Eng., Purdue Univ., West Lafayette, Indiana
Section: CA066003, CA073XXX, CA076XXX Publ Class: CONF
- PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUNAG
Publ: 77 Series: 3, Pages: 2277-80
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: surface photoelectron mass spectroscopy, secondary ion mass spectroscopy surface, x ray photoelectron spectroscopy surface
CAS Registry Numbers: 7440-74-6 7782-44-7
- CA08814095195W
Descriptors: Mass spectroscopy, secondary-ion; Photoelectron spectroscopy, x-ray; Surface
Identifiers: properties presence oxygen study indium
CAS Registry Numbers: 7440-74-6 7782-44-7
- CA08812083156W
Analysis of solids using a quadrupole mass filter
Author: Fralick, R. D., Roden, H. J., Minthorne, J. R.
Location: Appl. Res. Lab., Hasler Res. Cent., Goleta, Calif.
Section: CA079006 Tech. Publ. Class: TECH REP
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAS Publ: 76
Issue: STP 596, Surf. Anal. Tech. Metall. Appl., Pages: 126-39 Meeting Date: 75
Identifiers: solid analysis quadrupole mass filter, secondary ion mass spectrometer solid, silicon analysis quadrupole mass filter, depth profiling quadrupole mass filter, isotope ratioing quadrupole mass filter
- CA08812083156W
Descriptors: Mass spectrometers and spectrographs, secondary-ion; Mass spectroscopy, secondary-ion; Solids
Identifiers: quadrupole filter depth profiling isotope ratio measurements anal
- CA08812083155V
Small area depth profiling with the ion microprobe
Author: Whatley, T. A., Comaford, D. J., Colby, John, Miller, Paul
Location: Probe Appl. Lab., Appl. Res. Lab., Sunland, Calif.
Section: CA079006 Publ Class: TECH REP
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAS Publ: 76
Issue: STP 596, Surf. Anal. Tech. Metall. Appl., Pages: 114-25 Meeting Date: 75
Identifiers: ion microprobe small area profiling, microanalysis ion microprobe, depth profiling ion microprobe
- CA08812083155V
Descriptors: Mass spectroscopy, secondary-ion, microprobe
Identifiers: depth profiling small area samples

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 30 of 140) User4930 18may78

CA08814098108F

Quantitative SIMS - analysis on nonplanar surfaces

Author: Ruedenauer, F. G., Steiger, W.

Location: SGAE Vienna, Austria

Section: CA076011, CA066XXX Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2535-8

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: surface analysis mass spectroscopy, secondary

ion mass spectroscopy, quant surface analysis

CA08814098108F

Descriptons: Mass spectroscopy, secondary-ion, quant.

Surface, nonplanar

Identifiers: surfaces anal spectroscopy

CA08814098107E

Tridimensional characterization of solid surfaces with SIMS

analysis

Author: Diebold, A., Marguerite, J. L.

Location: Sunf. Anal. Dep., Riber S. A., Rueil-Malmison, Fr.

Section: CA076011 Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2523-5

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: review secondary ion mass spectrometry

CA08814098107E

Descriptons: Mass spectroscopy, secondary-ion; Surface

Identifiers: three dimensional characterization solid

surfaces spectrometry

CA08814095442Z

Kinetic studies on single crystals of fluorides and oxides

by SIMS and AES

Author: Buhl, R., Preisinger, A.

Location: Balzers A.-G. Hochvakuumtech. Duenne Schichten, Balzers, Liechtenstein

Section: CA067003, CA066XXX, CA075XXX Publ Class: CONF

PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 2, Pages: 1039-42

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: electron beam reaction fluoride oxide, surface

fluoride oxide electron beam, fluoride surface reaction

electron beam, oxide surface reaction electron beam, mass

spectroscopy fluoride oxide electron, Auger fluoride

electron, color center fluoride oxide electron

CA08814095442Z

Descriptons: Kinetics, reaction; Fluorides, reactions; Oxides, r-

eactions; Mass spectroscopy, secondary-ion; Electron emission

spectroscopy; Auger; Electron beam, chemical and physical effects

; Color centers

Identifiers: surface beams surfaces study formation

CAS Registry numbers: 7783-40-6 7789-75-5 7631-86-9 471-34-1

CA08814055247Q

Recoil spectroscopy of oxygen on tungsten(100)

Author: Prigge, S., Niehus, H., Bauer, E.

Location: Phys. Inst., Tech. Univ. Clausthal, Clausthal-Zellerfeld, Ger.

Section: CA066003, CA076XXX Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 2, Pages: 1381-4

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: oxygen adsorbed tungsten recoil spectroscopy,

mass spectroscopy ion recoil adsorbate

CA08814095247Q

Descriptons: Mass spectroscopy, secondary-ion; Adsorbed

Substances

Identifiers: properties tungsten recoil oxygen ions study

surfaces

CAS Registry Numbers: 7782-44-7 7440-33-7 7782-44-70

CA08814095203X

A unique instrument for multiple technique surface

characterization by ESCA, scanning Auger, UPS and SIMS

Author: Palmberg, P. W., Riggs, W. M.

Location: Phys. Electron. Ind., Inc., Eden Prairie, Minn.

Section: CA066003, CA073XXX, CA076XXX Publ Class: CONF

PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2617-20

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: Auger surface study app. photoelectron

spectroscopy surface study app. mass spectroscopy surface

study app. electron scanning microscopy surface, surface study

combined spectroscopy

CA08814095203X

Descriptons: Electron emission spectroscopy, Auger;

Photoelectron spectroscopy, x-ray; Photoelectron spectroscopy, UV

; Mass spectrometers and spectrographs, secondary-ion;

Microscopes, electron scanning; Computer application; Surface

Identifiers: combined other techniques Auger multiple study

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 25 of 140) User4930 18May78

CA08815104219M

Secondary ion mass spectrometry. A new analytical technique for biologically important compounds

Author: Benninghoven, A., Sichtenmann, W.

Location: Phys. Inst., Univ. Muenster, Muenster, Ger.

Section: CA022002, CA034XXX, CA064XXX, CA080XXX Publ

Class: JOURNAL

Journal: Org. Mass Spectrom. Coden: ORMSBG Publ: 77

Series: 12 Issue: 9 Pages: 595-7

Identifiers: analysis biol compd mass spectra, amino acid

secondary ion mass spectra, vitamin secondary ion mass spectra

; peptide secondary ion mass spectra, mass spectra secondary

ion biol compd, pharmaceutical secondary ion mass spectra

CA08815104219M

Descriptions: Amino acids, analysis; pharmaceutical analysis;

peptides, analysis; mass spectra, secondary-ion

Identifiers: properties, spectrum; esters compounds

identification spectrometry biol important compds

CAS Registry Numbers: 56-40-6 56-41-7 107-95-9 63-91-2

56-45-1 72-19-5 147-85-3 72-18-4 61-90-5 327-57-1 74-79-3

60-18-4 73-22-3 52-90-4 56-89-3 63-68-3 13073-35-3 56-85-9

623-33-6 1115-59-9 52-89-1 107-55-7 556-50-3 556-33-2 869-19-2

721-90-4 57-44-3 299-42-3 51-55-8 51-43-4 50-81-7 58-85-5

59-67-6 98-92-0 121-57-3 63-74-1 144-80-9 50-89-5 86-40-8

57-00-1 60-27-5

CA08814098559D

Sputtered secondary ion emission as chemical analysis

technique

Author: Bayly, A. R., MacDonald, R. J.

Location: Fac. Sci., Australian Natl. Univ., Canberra, Aust.

Section: CA079000 Publ Class: CONF PROC

Journal: Summ. Proc. - Aust. Conf. Nucl. Tech. Anal.

Coden: 37JAAZ Publ: 77 Pages: 49-50 Meeting Date: 76

Publisher: CSIRO Address: E. Melbourne, Aust

Identifiers: review sputtered secondary ion emission,

secondary ion mass spectrometry review

CA08814098553D

Descriptions: Mass spectrometry, secondary-ion

Identifiers: anal

CA08814098543U

Micro-analysis by solid mass spectrometry: a review

Author: Konishi, Fumiya, Kusao, Kenji, Nakamura, Nobuo

Location: Cent. Res. Lab., Matsushita Electr. Ind. Co.,

Osaka, Japan

Section: CA079000, CA076XXX Publ Class: JOURNAL

Journal: Natl. Tech. Rep. (Matsushita Electr. Ind. Co.,

Osaka) Coden: NTRDAP Publ: 77 Series: 23 Issue: 1

Pages: 4-13 Language: Japan

Identifiers: review solid analysis mass spectrometry, spark
source mass spectrometry review, secondary ion mass
spectrometry review, metal analysis mass spectrometry review,
alloy analysis mass spectrometry review

CA08814098543U R

Descriptions: Metals, analysis; alloys, analysis; mass spectrosc-

opy, spark-source; mass spectrometry, secondary-ion

Identifiers: solids

CA08814098164W

Fast diffusion of elevated-temperature ion-implanted

selenium in gallium arsenide as measured by secondary ion mass

spectrometry

Author: Lidow, A., Gibbons, J. F., Deline, V. R., Evans, C.

A., Jr.

Location: Stanford Electron Lab., Stanford Univ., Stanford,

Calif.

Section: CA076013, CA065XXX Publ Class: JOURNAL

Journal: Appl. Phys. Lett. Coden: APPLAB Publ: 78

Series: 32 Issue: 3 Pages: 149-51

Identifiers: selenium diffusion gallium arsenide

CA08814098164W

Descriptions: Diffusion

Identifiers: properties implanted gallium arsenide selenium

implants

CAS Registry Numbers: 7782-49-2 1303-00-0

CA08814098109G

A new UHV-specimen preparation chamber for solid surface

analysis with sample transport mechanism over a UHV-sluice

lock to a SIMS-apparatus

Author: Klaus, N., Hgatsberger, M. J.

Location: Inst. Phys., Inst., Univ. Wien, Vienna, Austria

Section: CA076011, CA068XXX Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JNA6

Publ: 77 Series: 3, Pages: 2597-600

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Vienboeck, F. P

Identifiers: surface analysis mass spectrometry, secondary

ion mass spectrometry

CA08814098109G

Descriptions: Mass spectrometry, secondary-ion; surface

Identifiers: sample prepn chamber anal spectrometry

DIAGLOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 20 of 140) User:4930 18may78

CA08816114004B

Application of SIMS analysis with reactive sputtering and conclusions to the mechanism of the secondary ionization

Author: Giben, J.; Josepovits, V. K.

Location: Phys. Inst., Tech. Univ. Budapest, Budapest, Hung.

Section: CA076005 Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2585-8

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: secondary ionization mass spectroscopy, argon

ionization mass spectroscopy, sputtering reactive mass

spectroscopy, aluminum alloy secondary ionization, magnesium

aluminum secondary ionization, silicon aluminum secondary

ionization, copper aluminum secondary ionization, nickel

aluminum secondary ionization, iron nickel secondary

ionization

CA08816114004B

Descriptors: Mass spectroscopy, secondary-ion: Sputtering, reactive: Ionization in gases

Identifiers: ions properties yield presence studies nonbase

study

CAS Registry Numbers: 7782-44-7D 7440-37-1 11099-20-0

11099-22-2 11039-19-7 11114-68-4 11148-32-6

CA08816114002Z

Preferential sputtering on binary alloys by SIMS

Author: Arita, M.; Someno, M.

Location: Dep. Metall. Eng., Tokyo Inst. Technol., Tokyo,

Japan

Section: CA076005 Publ Class: CONF PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2511-14

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: preferential sputtering binary alloy, deuterium

sputtering vanadium niobium

CA08816114002Z

Descriptors: Sputtering; Alloys, binary, properties; Diffusion

Identifiers: vanadium niobium preferential deuterium

secondary mass spectroscopy study theory

CAS Registry Numbers: 7782-39-0 7440-62-2 7440-03-1

CA088161110125

The SIMS spectrum of the oxygen-tungsten (100) chemisorption

system

Author: Yu, Ming L.

Location: Brookhaven Natl. Lab., Upton, N. Y.

Section: CA066003, CA076XXX Publ Class: JOURNAL

Journal: Surf. Sci., Coden: SUSCAS Publ: 78 Series:

71 Issue: 1 Pages: 121-38
Identifiers: secondary ion mass spectroscopy chemisorption,
chemisorption oxygen tungsten SIMS

CA088161110125

Descriptors: Mass spectroscopy, secondary-ion: Chemisorption

Identifiers: reactions tungsten study oxygen submonolayer

range

CAS Registry Numbers: 7782-44-7 7440-33-7

CA08816110917D

Comparison of thin film analytical methods

Author: Werner, H. W.

Location: Philips Res. Lab., Eindhoven, Neth.

Section: CA066000, CA075XXX, CA076XXX Publ Class: CONF

PROC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3, Pages: 2135-44

Publisher: R. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: review surface film electron spectroscopy,

structure film electron spectroscopy review

CA06816110917D R

Descriptors: Surface structure; Surface structure; Electron

emission spectroscopy; Auger; Photoelectron spectroscopy, x-ray;

Ion beams; Mass spectroscopy, secondary-ion

Identifiers: detn films spectroscopic method methods film

diffraction anal

DIALOG File4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 16 of 140) User4930 18may78

CA088161147270

Quantitative surface analysis using ion-induced secondary ion and photon emission

Author: MacDonald, R. J., Martin, P. J.

Location: Dep. Phys., Aust. Natl. Univ., Canberra, Aust.

Section: CA079006 Publ Class: JOURNAL

Journal: Surf. Sci. Coden: SUSCAS Publ: 77 Series:

66 Issue: 2 Pages: 423-35

Identifiers: surface analysis ion beam technique, secondary ion emission surface analysis, photon emission surface analysis, steel surface analysis ion microprobe, stainless steel surface analysis, chromium iron detn steel surface

CA088161147270

Descriptons: Mass spectroscopy, secondary-ion, microprobe; Surface: ion beams, microprobes

Identifiers: analysis detn stainless steel chromium iron anal surfaces induced photon emission

CAS Registry Numbers: 7440-47-3 7439-89-6 12597-68-1

CA088161147221

Stas Determination of small diffusion coefficients in oxidic compounds

Author: Sockel, H. G., Hallwig, O.

Location: Inst. Werkstoffwiss., Univ. Erlangen-Nuernberg, Erlangen, Ger.

Section: CA079006 Publ Class: JOURNAL

Journal: Mikochim. Acta, Suppl. Coden: MKASAK Publ:

77 Series: 7. Pages: 95-107 Language: Ger

Identifiers: mass spectroscopy diffusion coeff detn, oxygen 18 profile detn oxide, magnesium 26 profile detn forsterite, zinc oxide analysis oxygen 18, forsterite analysis magnesium

CA09916114722J

Descriptons: Diffusion, coeff.; Mass spectroscopy, secondary ion

Identifiers: analysis detn concn profile forsterite zinc oxide beam sputtering oxygen 18 magnesium 26 coeffs oxidic comds energy dispersive x ray anal

CAS Registry Numbers: 14797-71-8 13981-68-5 1314-13-2 15118-03-3

CA08816114610W

Simultaneous in-situ application of surface analytical techniques

Author: Komiya, Souji, Narusawa, Tadashi

Location: Ulvac Corp., Chigasaki, Japan

Section: CA079000 Publ Class: CONF PRQC

Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6

Publ: 77 Series: 3. Pages: 2603-12

Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. p

Identifiers: review surface analysis, Auger spectroscopy surface analysis review, mass spectroscopy surface analysis review, simultaneous technique surface analysis review

CA08816114610W R

Descriptons: Surface: Electron emission spectroscopy, Auger; Mass spectroscopy, secondary ion

Identifiers: anal simultaneous situ techniques combined Auger

CA08816114152Y

Combined UHV ion-scattering and secondary-ion mass spectrometer using magnetic analysis

Author: Tongson, Luis L., Cooper, C. Burleigh

Location: Phys. Dep., Univ. Delaware, Newark, Del.

Section: CA076011, CA075XXX Publ Class: JOURNAL

Journal: J. Phys. E Coden: JPSIAE Publ: 77 Series: 10 Issue: 12 Pages: 1245-8

Identifiers: mass spectrometer ion bombardment, secondary ion mass spectrometer

CA08816114152Y

Descriptons: Mass spectrometers and spectrographs, secondary-ion; ion beams

Identifiers: bombardment studies combined scattering sputtered sputtering solids bombarded spectrometry

DIALOG File: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 11 of 140) User:4930 18may78

CA08818126762W
Rapid data acquisition using an automated SIMS quadrupole mass analyzer for solids: application to high resolution depth profiling
Author: Conrad, R. L., Whalley, T. A., Fralick, R. D.
Location: Appl. Res. Lab., Sunland, Calif.
Section: CA076011, CA079XXX Publ Class: JOURNAL
Journal: Proc., Annu. Conf. - Microbeam Anal. Soc. Coden: PCSCDB
Publ: 77 Series: 12 Issue: Int. Conf. X-Ray Opt. Microanal., 8th Annu. Conf. Microbeam Anal. Soc. Pages: 134A-134E
Identifiers: secondary ion mass spectrometry, quadrupole mass analyzer, depth profiling mass spectrometry, film depth profiling mass spectrometry

CA08818129762W
Descriptons: Mass spectroscopy, secondary-ion quadrupole mass anal.: Films
Identifiers: high resolu depth profiling analyzer

CA08818126734C
The adsorption of carbon monoxide on molybdenum studies by low energy, SIMS and EIP
Author: Daxson, P. H.
Location: Div. Phys., Natl. Res. Council, Ottawa, Ont.
Section: CA066003 Publ Class: JOURNAL
Journal: Surf. Sci. Coden: SUSCAS
Publ: 78 Series: 71 Issue: 2 Pages: 247-66
Identifiers: adsorption carbon monoxide molybdenum, desorption carbon monoxide molybdenum, mass spectroscopy carbon monoxide molybdenum

CA08818126734C
Descriptons: Adsorption; Desorption; Electron-stimulated; Electron beam; Chemical and physical effects
Identifiers: properties molybdenum secondary mass spectroscopy study carbon monoxide
CAS Registry Numbers: 630-08-0 7439-98-7

CA08818126729E
Isotope effect in the study of hydrogen-tungsten(100) and oxygen-tungsten(100) chemisorption systems using SIMS
Author: Yu, M. L.
Location: Brookhaven Natl. Lab., Upton, N. Y.
Section: CA066003, CA076XXX Publ Class: TECH REP
Journal: Report Coden: D3REP3
Publ: 77 Issue: BNL-22947, pages: 11 pp.
Citation: Energy Res. Abstr. 1977, 2(24), Abstr. No. 61192
Avail: NTIS
Identifiers: isotope chemisorption hydrogen oxygen tungsten, hydrogen isotope effect; chemisorption tungsten, oxygen isotope effect
Chemisorption tungsten, mass spectroscopy

chemisorption hydrogen oxygen

CA08818126729E
Descriptons: Isotope effect; Chemisorption; Mass spectroscopy, secondary-ion
Identifiers: reactions tungsten study hydrogen oxygen
CAS Registry Numbers: 1333-74-0 7782-44-7 7440-33-7 7782-39-0 14797-71-8

CA08816114750S
The use of nuclear reactions and SIMS for quantitative depth profiling of hydrogen in amorphous silicon
Author: Clark, G. J., White, C. W., Allred, D. D., Appleton, B. R., Yegge, C. W., Carlson, D. E.
Location: Solid State Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.
Section: CA079006 Publ Class: JOURNAL
Journal: Appl. Phys. Lett. Coden: APPLAB
Publ: 77 Series: 31 Issue: 9 Pages: 582-5
Identifiers: hydrogen profile detn silicon, amorphous silicon analysis hydrogen, radiochem hydrogen profile detn silicon, secondary ion mass spectroscopy hydrogen, mass spectroscopy hydrogen detn silicon

CA08816114750S
Identifiers: analysis detn depth profile amorphous silicon
Nuclear reactions secondary ion mass spectroscopy hydrogen
CAS Registry Numbers: 1333-74-0 7440-21-3

CA08816114745U
Determination of rare-earth oxides using an ion microanalyzer
Author: Uemino, Yoshinori, Ishizuka, Toshio, Nakajima, Kunio, Sunahara, Hiroshi
Location: Gov. Ind. Res. Inst., Nagoya, Japan
Section: CA079006 Publ Class: JOURNAL
Journal: Shitsunyo Bunseki Coden: SHIBAK
Publ: 77 Series: 25 Issue: 2 Pages: 153-9
Language: Japan
Identifiers: lanthanide oxide detn ion microprobe, mass spectroscopy lanthanide oxide detn, yttrium oxide detn ion microprobe, lanthanum oxide detn ion microprobe, cerium oxide detn ion microprobe, praseodymium oxide detn ion microprobe, neodymium oxide detn ion microprobe, samarium oxide detn ion microprobe

CA08816114745U
Descriptons: Rare earth oxides; Mass spectroscopy, secondary ion, microprobe
Identifiers: analysis detn
CAS Registry Numbers: 1314-36-9 1312-81-8 1306-38-3 12037-29-5 1313-97-9 12060-58-1

Dialog File 4: CA CONDENS/CASIA 77-VOL88(20) (Copr. Am. Chem. Soc.) (Item 6 of 140) User:4930 18May78

CA08920143240F

Detection of fission-product deposition and diffusion using secondary ion mass spectroscopy (SIMS)
Author: Beske, H. E.; Holzbrecher, H.
Location: Zentralabst. Chem. Anal., KFA, Juelich, Juelich, Ger.
Section: CA071009 Publ. Class: JOURNAL
Journal: Mikrochim. Acta Coden: MIKACQ Publ: 78
Series: 1 Issue: 1-2 Pages: 201-8 Language: Ger
Identifiers: fission product deposition diffusion, reactor wall material cesium diffusion, ion mass spectroscopy cesium diffusion

CA08820143230F

Descriptors: Nuclear reactors; Diffusion
Identifiers: Properties distribution fission product wall material secondary mass spectroscopy detection base cesium materials products grain boundaries alloying
CAS Registry Numbers: 7440-46-2 11135-86-7 66121-30-0

CA08820142064Q

Isotope effect in the study of hydrogen-tungsten (100) and oxygen-tungsten (100) chemisorption systems using SIMS
Author: Yu, Ming L.
Location: Brookhaven Natl. Lab., Upton, N. Y.
Section: CA066003, CA076XXX Publ. Class: JOURNAL
Journal: Nucl. Instrum. Methods Coden: NUIMAL Publ: 78
Series: 149 Issue: 1-3 Pages: 559-61
Identifiers: isotope effect chemisorbate mass spectroscopy, secondary ion mass spectroscopy chemisorbate, tungsten chemisorbate mass spectroscopy, oxygen isotope chemisorbed tungsten, hydrogen isotope chemisorbed tungsten

CA08920142064Q

Descriptors: Isotope effect; Chemisorbed substances; Mass spectroscopy; secondary-ion; Sputtering
Identifiers: Properties tungsten study hydrogen oxygen uses miscellaneous use neon ions
CAS Registry Numbers: 1333-74-0 7782-44-7 7440-33-7 7782-39-0 14797-71-8 14782-23-1

CA08920140308Y

Chemistry of metal and alloy adherends by secondary ion mass spectroscopy, ion scattering spectroscopy, and Auger electron spectroscopy
Author: Baun, W. L.; McDavitt, N. T.; Solomon, J. S.
Location: Air Force Mater. Lab., Wright-Patterson AFB, Ohio
Section: CA056000, CA066XXX Publ. Class: TECH REP
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAB Publ: 76
Issue: STP 596, Surf. Anal. Tech. Metall. Appl., Pages: 88-100 Meeting Date: 75
Identifiers: review surface analysis adhesive bonding, metal

bonding surface analysis review, alloy bonding surface analysis review

CA08820140308Y

Descriptors: Surface, anal.; Adhesives; Metals, analysis; Alloys; Uses and miscellaneous
Identifiers: bonding relation

CA08818130389M

A comparative study of solid surface analyses between low energy ion scattering spectroscopy (ISS) and secondary ion mass spectroscopy (SIMS)
Author: Taya, Shunroku, Tsuyama, Hitoshi, Itoh, Michiyasu, Kanomata, Ichiro
Location: Gent. Res. Lab., Hitachi Ltd., Tokyo, Japan
Section: CA079006, CA076XXX Publ. Class: JOURNAL
Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 77
Series: 25 Issue: 3 Pages: 251-62
Identifiers: aluminum surface analysis, copper gold silver alloy analysis, gallium prosphide surface analysis, secondary ion mass spectroscopy surface, ion beam scattering surface analysis, surface ion scattering mass spectroscopy, microprobe ion surface analysis

CA08818130389M

Descriptors: Ion beams; Surface; Mass spectrometers and spectrographs; double-focusing, stigmatic; Mass spectroscopy, secondary-ion
Identifiers: analysis anal low energy scattering spectroscopy base dein silicon wafer boron
CAS Registry Numbers: 7429-90-5 37197-03-8 12063-98-8 7440-42-8 7440-21-3

CA08818129767B

Contamination, collection geometry and collection field effects on secondary ion energy spectra
Author: Snowden, K. J.
Location: Dep. Phys., Australian Natl. Univ., Canberra, Austl.
Section: CA076011 Publ. Class: CONF PROC
Journal: Proc. Int. Vac. Congr., 7th Coden: 37JUN6
Publ: 77 Series: 3, Pages: 2557-60
Publisher: R. Dobrozemsky Address: Vienna, Austria
Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P
Identifiers: titanium secondary ion emission

CA08818129767B

Descriptors: Ions in gases; Mass spectra; secondary-ion
Identifiers: properties emission surfaces titanium
CAS Registry Numbers: 7440-32-6

Print 9/5/1-140

DIALOG File#4: CA CONDENS/CASIA 77-VOL88(20)

(Copr. Am. Chem. Soc.) (Item 1 of 140) User#930 18may78

CA08820145387Y

Secondary ion mass spectrometry of deuterium in titanium,

zirconium, vanadium, niobium, and tantalum

Author: Someno, M.; Kobayashi, M.; Saito, M.

Location: Dep. Metall., Tokyo Inst. Technol., Tokyo, Japan

Section: CA079008 Publ Class: CONF PRQC

Journal: Proc. Int. Vac. Congr., 7th

Publ: 77 Series: 3, Pages: 2593-6

Publisher: G. Dobrozemsky Address: Vienna, Austria

Avail: Dobrozemsky, R.; Ruedenauer, F.; Viehboeck, F. P

Identifiers: deuterium detn mass spectroscopy, secondary ion

mass spectroscopy deuterium, titanium analysis deuterium,

zirconium analysis deuterium, vanadium analysis deuterium,

niobium analysis deuterium, tantalum analysis deuterium, alloy

analysis deuterium, iron titanium alloy analysis deuterium,

aluminum titanium alloy analysis deuterium

CA08820145367Y

Identifiers: analysis detn secondary ion mass spectrometry

deuterium base

CAS Registry Numbers: 7782-39-0 7440-32-6 7440-67-7

7440-62-2 7440-03-1 7440-25-7 66118-85-2 66118-86-3

CA08820145484Y

Ion microprobe using a field evaporation ion source fed by

liquid gallium

Author: Ringo, G. R.; Krohn, V. E.

Location: USA

Section: CA079002 Publ Class: TECH REP

Journal: Report Coden: D3REP3 Publ: 77 Issue:

CONF-770642-12, Pages: 8 pp.

Citation: Energy Res. Abstr. 1976, 3(1), Abstr. No. 1343

Avail: NTIS

Identifiers: ion microprobe field evapn source, gallium

field evapn ion source

CA08820145484Y

Descriptors: Ion sources, field-evapn, mass spectrometers and

spectrographs, secondary-ion, microprobe

Identifiers: uses miscellaneous ion anal liq gallium fed

high resol scanning efficiency collection neg ions

CAS Registry Numbers: 7440-55-3

CA08820145038Q

Interface studies of metal-semiconductor contacts by means

of SIMS, nuclear reaction and RBS

Author: Poncon, J. P.; Grob, J. J.; Grob, A.; Stuck, R.

Siffert, P.

Location: Groupe Phys. Appl. Semiconducteurs, Cent. Rech.

Nucl., Strasbourg, Fr. Publ Class: JOURNAL

Section: CA076013

Journal: Nucl. Instrum. Methods Coden: NUJMAL Publ: 78

Series: 149 Issue: 1-3 Pages: 647-51

Identifiers: oxygen accumulation gold silicon interface

CA08820145038Q

Descriptors: Interface

Identifiers: properties accumulation gold silicon interfaces

oxygen

CAS Registry Numbers: 7782-44-7 7440-57-5 7440-21-3

CA0882014489M

Energy analyzed secondary ion mass spectroscopy and

simultaneous Auger and XPS measurements of ion bombarded

surfaces

Author: Krauss, A. R.; Gruen, D. W.

Location: Char. Div., Argonne Natl. Lab., Argonne, Ill.

Section: CA076004 Publ Class: JOURNAL Publ: 78

Journal: Nucl. Instrum. Methods Coden: NUJMAL

Series: 149 Issue: 1-3 Pages: 547-52

Identifiers: secondary ion sputtering, kinetic energy

sputtered ion, emission secondary ion sputtering, potassium

secondary ion sputtering, aluminum secondary ion sputtering,

titanium secondary ion sputtering, argon sputtering metal,

surface oxygen metal sputtering

CA08820144461R

Hydrogen ion implantation profiles as determined by SIMS

Author: Magee, Charles W.; Wu, Chung P.

Location: RCA Lab., Princeton, N. J.

Section: CA075002, CA065XXX, CA076XXX Publ Class: JOURNAL

Journal: Nucl. Instrum. Methods Coden: NUJMAL Publ: 78

Series: 149 Issue: 1-3 Pages: 529-33

Identifiers: mass spectrometry hydrogen implantation,

silicon implantation hydrogen, stopping power hydrogen silicon

CA08820144461R

Descriptors: Mass spectroscopy, secondary, ion

Identifiers: properties implantation profile silicon detn

hydrogen

CAS Registry Numbers: 1303-74-0 7440-21-3

DIALOG Filed: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 33 of 55) User4930 18Jan79

CAS Registry Numbers: 7440-50-8

CA08904036043T
Quantitative analysis of oxygen in thin epitaxial layers of gallium arsenide by SIMS
Author: Huber, A. M., Morillot, G., Linh, N. T., Deb'uin, J. L., Valletton, M.
Location: Lab. Cent. Rech., Thomson CSF, Orsay, Fr.
Section: CA079008 Pub Class: JOURNAL
Journal: Nucl. Instrum. Methods Coden: NUIMAL Publi: 78
Series: 149 Issue: 1-3 Pages: 543-6
Identifiers: oxygen detn epitaxial gallium arsenide, secondary ion mass spectrometry oxygen, epitaxial gallium arsenide analysis oxygen

CA08904036043T
Identifiers: analysis oxygen detn epitaxial secondary ion mass spectrometry gallium arsenide
CAS Registry Numbers: 1303-00-0 7782-44-7

CA08902015536R
Secondary ion mass spectrometry of rare earth elements
Author: Ishizuka, Toshio, Uemino, Yoshinori, Nakajima, Kunio, Sunahara, Hiroshi
Location: Gov. Ind. Res. Inst., Nagoya, Japan
Section: CA076011 Pub Class: JOURNAL
Journal: Nagoya Kogyo Gijutsu Shikensho Hokoku Coden: MKGSAZ Publi: 76 Series: 25 Issue: 10 Pages: 311-18
Language: Japan
Identifiers: secondary ion mass spectrometry, mass spectrometry rare earth metal, rare earth compd metal spectrometry

CA08902015536R
Descriptions: Mass spectrometry, secondary-ion; rare earth metals, compounds; rare earth metals, properties
Identifiers: compds elements spectrometry

CA0890201827R
Study of contamination of copper surfaces with abrasive materials by low energy secondary ion mass spectrometry
Author: Sawa, Yoshiki, Kikuchi, Tadashi, Furuya, Keiichi
Location: Fac. Sci., Sci. Univ., Tokyo, Tokyo, Japan
Section: CA076011, CA086XXX Pub Class: JOURNAL
Journal: Shitsuryo Bunsen Coden: SHISAK Publi: 77
Series: 25 Issue: 4 Pages: 371-8 Language: Japan
Identifiers: mass spectrometry copper surface, abrasive polishing copper surface

CA0890201827R
Descriptions: Mass spectrometry, secondary-ion, low-energy; polishing, abrasive
Identifiers: properties surfaces spectroscopic study studies copper

CA08826198241N
X-ray photoelectron spectroscopy and secondary ion mass spectrometry: a multitechnique approach to surface analysis
Author: Shepard, A., Hewitt, R. W., Baitinger, W. E., Slusser, G. J., Minograd, Nicholas, Ott, G. L., Delgass, W. N.
Location: Sch. Chem. Eng., Purdue Univ., West Lafayette, Indiana
Section: CA086003, CA079XXX Pub Class: TECH REP
Journal: ASIM Spec. Tech. Publ. Coden: ASTIAB Publi: 78
Issue: 643, Quant. Surf. Anal. Mater., Pages: 187-203
Meeting Date: 77
Identifiers: surface analysis photoelectron mass spectrometry

CA08826198241N
Descriptors: Surface; Mass spectrometry, secondary-ion; Photoelectron spectroscopy, x-ray; Catalysts and Catalysis
Identifiers: properties study uses miscellaneous ruthenium iron oxygen exposed indium spectroscopic anal combined
CAS Registry Numbers: 7440-22-4 7439-89-6 7440-18-8 7440-74-6 7782-44-7

CA08824180989C
Solid solubility of selenium in gallium arsenide as measured by secondary ion mass spectrometry
Author: Lidow, A., Gibbons, J. F., Deline, V. R., Evans, C. A., Jr.
Location: Stanford Electron. Lab., Stanford Univ., Stanford, Calif.

Section: CA076002, CA069XXX Pub Class: JOURNAL
Journal: Appl. Phys. Lett. Coden: APPLAB Publi: 78
Series: 32 Issue: 9 Pages: 572-3
Identifiers: selenium soly gallium arsenide, carrier concn selenium gallium arsenide, cond selenium doped gallium arsenide

CA08824180989C
Descriptions: Electric conductivity and conduction; Electric conductivity and conduction
Identifiers: properties gallium arsenide contg sol limits relation selenium limit soly
CAS Registry Numbers: 1303-00-0 7782-48-2

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DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 29 of 55) User4930 18Jan79

CA0890805831D

Secondary ion mass spectrometry of surfaces at low energies
Author: Dawson, P. H.
Location: Div. Phys., Natl. Res. Council, Canada, Ottawa, Ont.
Section: CA066003, CA076XXX Publ Class: JOURNAL
Journal: Adv. Mass Spectrom. Coden: AMSPAH Publ: 78
Series: 7A, Pages: 789-96

Identifiers: SIMS low energy surface adsorption, mass spectrometry secondary ion surface, spectrometer secondary ion quadrupole filter, high sensitivity SIMS spectrometer, oxygen adsorption metal SIMS, copper adsorption oxygen SIMS, aluminum adsorption oxygen SIMS, titanium adsorption oxygen SIMS, carbon dioxide adsorption magnesium aluminum

CA0890805831D

Descriptors: Adsorption; Mass spectrometers and spectrographs, secondary-ion; Mass spectrometry, secondary-ion; Surface structure

Identifiers: properties aluminum magnesium alloy study oxygen metals nonbase carbon dioxide spectrometry studies low energies surfaces relation
CAS Registry Numbers: 124-38-9 7429-90-5 7440-32-6 7440-50-8 7782-44-7 37263-88-0

CA08908052645W

A comparison of Auger electron spectroscopy (AES) and secondary ion mass spectrometry (SIMS)

Author: Morabito, J. M. Inc., Allentown, Pa.
Location: Bell Telephone Lab., Inc., Allentown, Pa.
Section: CA079000, CA076XXX Publ Class: TECH REP
Journal: Natl. Sci. Found., Res. Appl. Natl. Needs, (Rep.)
NSF/RA (U. S.) Coden: XNRNBT Publ: 75 Issue:
NSF/RA-N-75-289, Cadmium Sulfide Sol. Cells Other
Heterojunctions: PB-252 297, Pages: 366-427
Identifiers: review Auger electron spectroscopy analysis, secondary ion mass spectrometry review, spectral analysis mass Auger review

CA08908052645W

R
Descriptors: Electron emission spectroscopy, Auger; Mass spectrometry, secondary-ion
Identifiers: anal compared Auger

CA08905038955R

Detection, identification, and structural investigation of biologically important compounds by secondary ion mass spectrometry
Author: Benninghoven, Alfred, Sichter, W. K.
Location: Phys. Inst., Univ. Muenster, Muenster, Ger.
Section: CA090004, CA001XXX, CA005XXX, CA004XXX
Class: JOURNAL
Journal: Anal. Chem. Coden: ANCHAM Publ: 78 Series:

50 Issue: 8 Pages: 1180-4
Identifiers: mass spectrometry secondary ion biol., amino acid mass spectrometry, peptide mass spectrometry, pharmaceutical mass spectrometry, vitamin mass spectrometry, sulfonamide mass spectrometry

CA08905038955R

Descriptors: Amino acids, properties; Mass spectra, secondary-ion; Mass spectrometry, secondary-ion; Peptides, properties; Pharmaceuticals; Sulfonamides; Vitamins
Identifiers: spectrum compounds esters biol compds
CAS Registry Numbers: 50-81-7 50-89-5 51-43-4 52-89-1 52-90-4 56-40-6 56-41-7 56-45-1 56-85-9 56-89-3 57-00-1 57-44-3 58-85-5 59-67-6 60-18-4 60-27-5 61-90-5 63-08-3 63-74-1 63-91-2 72-18-4 72-19-5 73-22-3 74-79-3 98-92-0 107-35-7 107-95-9 121-57-3 144-80-9 147-85-3 299-42-3 327-57-1 556-33-2 556-50-3 623-33-6 721-90-4 869-19-2 1115-59-9 13073-35-3 65589-70-0

CA08904036086J

Secondary ion mass spectrometric studies of group III - group V semiconducting materials
Author: Scilla, Gerald Joseph
Location: Cornell Univ., Ithaca, N. Y.
Section: CA079006 Publ Class: DISS
Codon: DA888A Publ: 77 Pages: 172 pp., 5322
Citation: Diss. Abstr. Int. B 1978, 38(11), 5322
Avail: Univ. Microfilms Int., Order No. 7806318
Identifiers: semiconductor material analysis mass spectrometry, Group III V semiconductor analysis, secondary ion mass spectrometry, ion microprobe mass spectrometry

CA08904036086J

Descriptors: Group IIIA element pnictides; Mass spectrometry, secondary-ion; Semiconductor materials
Identifiers: anal Group III V

63

DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 24 of 55) User-4930 18jan79

CA089080703770

X-ray microanalysis and secondary ion mass spectrometry on thin films of different thicknesses. Combined quantitative utilization

Author: Bresse, J. F., Manificier, J. C.
Location: Cent. Etud. Electron., Univ. Sci. Tech. Languedoc, Montpellier, Fr.

Section: CA079006 Publ Class: JOURNAL
Journal: Vide Coden: VIDEAA Publ: 78 Series: 189
Issue: Suppl. Pages: 73-9 Language: Fr
Identifiers: thin film analysis, secondary ion mass spectrometry film, mass spectrometry film analysis, electron microprobe film analysis, x ray analysis film

CA089080703770

Descriptors: Electron microprobe analysis; Films; Mass spectrometry; Secondary-ion
Identifiers: thin

CA08908070323U

Secondary ion mass spectrometry and Auger electron spectroscopy semiquantitative analysis of metal alloys

Author: Davis, L. E., Gerlach, R. L.
Location: Anal. Lab., Phys. Electron. Ind., Inc., Eden Prairie, Minn.

Section: CA079006 Publ Class: TECH REP
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAB Publ: 78
Issue: 643, Quant. Surf. Anal. Mater., Pages: 182-6
Meeting Date: 77

Identifiers: alloy analysis Auger mass spectrometry, Auger spectroscopy alloy analysis, mass spectroscopy alloy analysis, secondary ion mass spectroscopy alloy

CA08908070323U

Descriptors: Alloys; Analysis; Electron emission spectroscopy; Auger; Mass spectroscopy; Secondary-ion
Identifiers: Auger semiquant

CA08908070321S

Quantitative analysis by secondary ion mass spectrometry

Author: Newbury, D. E.
Location: Inst. Mater. Res., Natl. Bur. Stand., Washington, D. C.

Section: CA079006 Publ Class: TECH REP
Journal: ASTM Spec. Tech. Publ. Coden: ASTTAB Publ: 78
Issue: 643, Quant. Surf. Anal. Mater., Pages: 127-49
Meeting Date: 77

Identifiers: secondary ion mass spectroscopy analysis, quantitative mass spectroscopy, multichannel analysis, mass spectroscopy, glass analysis mass spectroscopy, local thermal equilibrium mass spectroscopy, sensitivity factor mass spectroscopy

CA08908070321S

Descriptors: Mass spectroscopy; Secondary-ion
Identifiers: quant multielement anal comparison accuracy local thermal equil model sensitivity factors

CA08908070214J

Quantitative analysis of phosphorus and arsenic in silicon by ion microanalyzer

Author: Tsuyama, Hitoshi, Hashimoto, Norikazu
Location: Hitachi Cent. Res. Lab., Kokubunji, Japan
Section: CA079006 Publ Class: JOURNAL
Journal: Shitsuryo Bunseki Coden: SHIBAK Publ: 77
Series: 25 Issue: 4 Pages: 351-62 Language: Japan

Identifiers: arsenic detn ion microanalyzer, phosphorus detn ion microanalyzer, ion microanalyzer arsenic phosphorus detn, silicon analysis arsenic phosphorus, phosphosilicate glass analysis phosphorus, secondary ion mass spectrometry

CA08908070214J

Descriptors: Glass; Oxide
Identifiers: analysis arsenic phosphorus detn ion microprobe silicon phosphosilicate
CAS Registry Numbers: 7440-21-3 7440-38-2 7723-14-0

CA08908069261R

Possibility of using the secondary ion mass spectrometry method to study super-thin silica layers

Author: Didenko, P. I., Marchenko, R. I., Romanova, G. F.
Location: USSR

Section: CA078003 Publ Class: CONF PROC
Journal: Poluprovodn. Plenki Sloistye Strukt.
38GEAS Publ: 77 Pages: 62-6 Language: Russ
Publisher: "Naukova Dumka" Address: Kiev, USSR
Avail: Svezhnikov, S. V
Identifiers: silica film mass spectrometry

CA08908069261R

Descriptors: Mass spectroscopy; Secondary-ion
Identifiers: uses miscellaneous films study superthin silica layers
CAS Registry Numbers: 7631-86-9

DIALOG Filed: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 19 of 55) User:4930 18Jan79

aluminum coating

CA08912099159F
Semi-quantitative analyses by secondary ion mass spectrometry using one fitting parameter
Author: Morgan, A. E., Werner, H. W.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA079006 Publ. Class: JOURNAL MICAQ Publ: 78
Journal: Mikrochim. Acta Coden: 31-50
Series: 2 Issue: 1-2 Pages: 31-50
Identifiers: single fitting parameter mass spectrometry, correction secondary ion mass spectrometry, metal analysis mass spectrometry correction, mineral analysis mass spectrometry correction

CA08912099159F
Descripton: Mass spectrometry, secondary-ion; Metals, analysis; Minerals
Identifiers: detn single fitting parameter correction parameter
CAS Registry Numbers: 7429-90-5 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7440-02-0 7440-03-1 7440-09-7 7440-16-6 7440-21-3 7440-22-4 7440-23-5 7440-24-6 7440-25-7 7440-31-5 7440-32-6 7440-33-7 7440-36-0 7440-38-2 7440-39-3 7440-42-8 7440-44-0 7440-47-3 7440-48-4 7440-50-8 7440-62-2 7440-67-7 7440-69-9 7440-70-2 7723-14-0

CA08912098581A
Depth profiling of sodium in silicon dioxide films by secondary ion mass spectrometry
Author: Magee, Charles W., Harrington, William L.
Location: RCA Lab., Princeton, N. J.
Section: CA076011, CA079XXX Publ. Class: JOURNAL Publ: 78
Journal: Appl. Phys. Lett. Coden: APPLAB
Series: 33 Issue: 2 Pages: 193-6
Identifiers: sodium implant profile silica, mass spectrometry sodium silica

CA08912098581A
Identifiers: properties depth profile silica films implanted profiling ion sodium secondary mass spectrometry
CAS Registry Numbers: 7440-23-5 7631-86-9

CA08912096901F
A study of conversion coating development on aluminum in chromate/fluoride solutions using secondary ion mass spectrometry
Author: Abd Rabbo, M. F., Richardson, J. A., Wood, G. C.
Location: Corros. Prot. Cent., Univ. Manchester Inst. Sci. Technol., Manchester, Engl.
Section: CA072001 Publ. Class: JOURNAL
Journal: Corros. Sci. Coden: CRRSAA Publ: 78
Series: 18 Issue: 2 Pages: 117-23
Identifiers: aluminum conversion coating, mass spectrometry

CA08912096901F
Descripton: Coating process, conversion; Mass spectrometry, secondary-ion
Identifiers: uses miscellaneous chromate fluoride solns spectrometry study aluminum contg spectrometric development studies
CAS Registry Numbers: 7429-90-5 11104-59-9 16984-48-8

CA08910083354E
Progress in secondary ion mass spectrometry instrumentation
Author: Liebi, H.
Location: Max-Planck-Inst. Plasmaphys., EURATOM, Garching, Ger.
Section: CA076000 Publ. Class: JOURNAL
Journal: Adv. Mass Spectrom. Coden: AMSPAH Publ: 78
Series: 7A, Pages: 807-14
Identifiers: review secondary ion mass spectrometer

CA08910083354E R
Descripton: Mass spectrometers and spectrographs, secondary-ion

CA08910080800M
Characterization of metal surfaces by secondary ion mass spectrometry x-ray photoelectron spectroscopy
Author: Hewitt, R. W., Shepard, A. T., Baitinger, W. E., Winograd, Nicholas, Ott, G. L., Delgass, W. N.
Location: Dep. Chem., Purdue Univ., West Lafayette, Indiana
Section: CA067003, CA068XXX, CA073XXX, CA076XXX Publ. Class: JOURNAL
Journal: Anal. Chem. Coden: ANCHAM Publ: 78 Series: 50 Issue: 9 Pages: 1286-90
Identifiers: XPS mass spectra surface reaction, oxidn lead indium surface

CA08910080800M
Descripton: Mass spectrometry, secondary-ion; Oxidation; Photoelectron spectroscopy, x-ray
Identifiers: oxidn properties secondary formation argon bombardment metal surfaces emission surface reaction product XPS lead indium oxygen metals study
CAS Registry Numbers: 7439-92-1P 7440-22-4 7440-37-1 7440-74-6

DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 14 of 55) User-4930 18Jan79

Identifiers: depth profiling

CA08914121641F
Secondary ion mass spectrometry of metals and alloys
Author: Cherepin, V. T.
Location: Inst. Met. Phys., Kiev, USSR
Section: CA076011 Pubi Class: JOURNAL
Journal: Adv. Mass Spectrom. Coden: AMSPAH Pubi: 78
Series: 7A. Pages: 776-83
Identifiers: secondary ion mass spectrometry, metal
secondary ion mass spectrometry, alloy secondary ion mass
spectrometry

CA08914121641F
Descriptors: Alloys, properties; Mass spectroscopy, secondary--
ion; Metals, properties
Identifiers: nonbase
CAS Registry Numbers: 7429-90-5 7429-91-6 7439-89-6
7439-91-0 7439-92-1 7439-94-3 7439-95-4 7439-96-5 7439-98-7
7440-09-8 7440-02-0 7440-03-1 7440-05-3 7440-06-4 7440-10-0
7440-15-5 7440-16-6 7440-18-8 7440-19-9 7440-20-2 7440-22-4
7440-25-7 7440-27-9 7440-30-4 7440-31-5 7440-32-6 7440-33-7
7440-41-7 7440-43-9 7440-45-1 7440-47-3 7440-48-4 7440-50-8
7440-52-0 7440-54-2 7440-57-5 7440-58-6 7440-60-0 7440-62-2
7440-64-4 7440-66-6 7440-67-7 7440-69-9 7440-74-6 11122-73-9
11147-86-7 39431-49-7 67541-14-4

CA08914121409W
Introduction to secondary ion mass spectrometry (SIMS)
Author: Werner, H. W.
Location: Philips Res. Lab., Eindhoven, Neth.
Section: CA076000 Pubi Class: JOURNAL
Journal: NATO Adv. Study Inst. Ser., B Coden: NASBD3
Pubi: 78 Series: B32 Issue: Electron Ion Spectrosc.
Solids Pages: 324-441 Meeting Date: 77
Identifiers: review secondary ion mass spectrometry

CA08914121409W
Descriptors: Mass spectroscopy, secondary-ion

CA08914121393B
In-depth profiling by means of secondary ion mass
spectrometry
Author: Yagashi, Yuki, Nakajima, Seizo
Location: Res. Lab., Matsushita Electron. Corp., Osaka,
Japan
Section: CA076000, CA079XXX Pubi Class: JOURNAL
Journal: Shitsuryo Bunseki Coden: SHIBAK Pubi: 77
Series: 25 Issue: 4 Pages: 279-96 Language: Japan
Identifiers: review mass spectrometry depth profiling

CA08914121393B
Descriptors: Mass spectrometers and spectrographs, secondary-
ion

CA08914121392A
Development of hydrogen analysis by secondary ion mass
spectrometry
Author: Someno, Mayumi, Kobayashi, Mutsuhiro, Saito, Hiroshi
Location: Fac. Eng. Tokyo Inst. Technol., Tokyo, Japan
Section: CA076000, CA079XXX Pubi Class: JOURNAL
Journal: Shitsuryo Bunseki Coden: SHIBAK Pubi: 77
Series: 25 Issue: 4 Pages: 263-77 Language: Japan
Identifiers: review mass spectrometry hydrogen analysis,
alloy hydrogen analysis review, metal hydrogen analysis review

CA08914121392A
Descriptors: Alloys, properties; Mass spectroscopy, secondary--
ion; Metals, properties
Identifiers: anal hydrogen spectrometry
CAS Registry Numbers: 1333-74-0

CA08914119256R
Diffusion of cesium in high temperature alloys (a study
using scanning Auger electron spectroscopy and secondary ion
mass spectrometry)
Author: Herion, J., Von Seggern, J.

Location: Ger
Section: CA071005, CA056XXX Pubi Class: TECH REP
Journal: Ztr. Kernforschungsanlage Juellich Coden: BKEJAS
Pubi: 78 Issue: Juell-1483, Pages: 38 pp. Language:
Ger

Identifiers: cesium diffusion high temp alloy, Nimocast
cesium diffusion, TZM cesium diffusion, molybdenum cesium
diffusion, nickel cesium diffusion

CA08914119256R
Descriptors: Diffusion; Nuclear reactors
Identifiers: properties cesium isotopes high temp alloys
base nonbase fission product
CAS Registry Numbers: 7439-98-7 7440-02-0 7440-46-20
11135-86-7 67076-97-5

DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 10 of 55) User4930 18Jan79

CA08919159670C

Secondary ion mass spectra of apatites
 Author: Lodding, A., Larsson, S. J., Odellius, M.
 Location: Mater. Sci. Cent., Chalmers Univ. Technol.,
 Goteborg, Swed.
 Section: CA009004 Publ Class: JOURNAL
 Journal: Z. Naturforsch., A
 Series: 33A Issue: 6 Pages: 697-708
 Identifiers: apatite secondary ion mass spectrometry, trace
 element mass spectrometry, tooth apatite mass spectra, bone
 apatite mass spectra, ion microprobe element apatite

CA08919159670C

Descriptores: Bone, composition; Mass spectra, secondary-ion;
 Mass spectroscopy, secondary-ion, microprobe; Tooth; Trace
 elements
 Identifiers: detn spectrometry detection sensitivities
 analysis apatites relation
 CAS Registry Numbers: 1306-04-3 1306-05-4 1306-06-5
 1333-74-0 2074-87-5 7429-90-5 7439-91-0 7439-93-2 7439-94-3
 7439-96-5 7439-97-6 7440-02-0 7440-03-1 7440-09-7 7440-10-0
 7440-16-6 7440-17-7 7440-20-2 7440-23-5 7440-27-9 7440-27-9
 7440-29-1 7440-30-4 7440-38-2 7440-41-7 7440-43-9 7440-44-0
 7440-46-2 7440-48-4 7440-57-5 7440-60-0 7440-61-1 7440-62-2
 7440-65-5 7440-66-6 7440-69-9 7553-56-2 7704-34-9 7727-37-9
 13866-27-3 13967-66-3 13967-67-4 13967-69-6 13981-68-5
 13981-72-1 13981-73-2 13981-78-7 13981-97-0 13982-02-0
 13982-14-4 13982-15-5 13982-24-6 14041-51-1 14092-98-9
 14119-06-3 14119-10-9 14119-12-1 14119-16-5 14191-17-6
 14191-29-0 14191-67-4 14191-71-0 14191-73-2 14191-88-9
 14265-72-6 14265-77-1 14265-78-2 14265-80-6 14265-82-8
 14265-83-9 14274-79-4 14276-58-5 14280-39-8 14280-48-9
 14304-49-0 14304-84-8 14304-87-1 14304-89-3 14304-92-8
 14336-82-4 14336-84-6 14336-84-6 14336-94-8 14378-37-1
 14378-38-2 14378-48-4 14380-59-7 14390-75-1 14390-76-2
 14391-02-7 14391-28-7 14391-29-8 14391-32-3 14392-17-7
 14392-33-7 14681-54-0 14683-00-2 14683-29-5 14687-55-9
 14798-13-1 14834-85-6 14867-61-9 14900-11-9 14913-64-5
 14914-61-5 14914-62-6 14914-65-9 14998-96-0 15010-01-2
 15034-59-0 15062-08-5 15068-71-0 15411-67-3 15749-58-3
 15749-60-7

CA08918154499U

Surface analysis of aluminum by high mass resolution
 secondary ion mass spectrometry (SIMS)
 Author: Laty, P., Figaret, R., Degreve, F.
 Location: Cent. Rech., Aluminium Pechiney, Voreppe, Fr.
 Section: CA072001, CA079XXX Publ Class: JOURNAL
 Journal: Vide Coden: VIDEAA Publ: 78 Issue: Numero
 Spec., Colloq. Eur. "Surf. - Vide - Metall."
 Language: Fr
 Identifiers: surface analysis aluminum impurity, anodic
 coating aluminum surface analysis

CA08918154499U

Descriptores: Coating materials, anodic; Surface
 Identifiers: uses miscellaneous coatings anal high mass
 resoln secondary ion spectrometry analysis detn anodically
 coated aluminum impurities
 CAS Registry Numbers: 7429-90-5 7439-89-6 7439-95-4
 7440-50-8 7440-66-6

CA08915126954V

Elemental microanalysis of enamel and dentin by secondary
 ion mass spectrometry (SIMS). Deciduous and permanent teeth
 from high and low fluoride area
 Author: Petersson, Lars G., Lodding, Alexander, Koch, Goran
 Location: Inst. Postgrad. Dent. Educ., Jonkoping, Swed.
 Section: CA013013, CA001XXX Publ Class: JOURNAL Publ: 78
 Journal: Swed. Dent. J. Coden: SDOJDS
 Series: 2 Issue: 2 Pages: 41-54
 Identifiers: mineral element tooth distribution, fluoride
 tooth mineral element

CA08915126954V

Descriptores: Mineral elements; Tooth, dentin; Tooth, enamel;
 Waters, potable
 Identifiers: biological studies deciduous permanent fluoride
 relation response
 CAS Registry Numbers: 7429-90-5 7439-92-1 7439-93-2
 7439-95-4 7440-09-7 7440-17-7 7440-23-5 7440-24-6 7440-39-3
 7440-44-0 7723-14-0 7782-41-4 7782-50-5 16984-48-8

CA08914122599K

Analysis of tin-nickel (SnNi) electroplate by secondary ion
 mass spectrometry, ion scattering spectrometry, and Rutherford
 backscattering
 Author: Schubert, Rudolf
 Location: Bell Lab., Columbus, Ohio
 Section: CA079006 Publ Class: JOURNAL
 Journal: J. Electrochem. Soc. Coden: JESDAN Publ: 78
 Series: 125 Issue: 8 Pages: 1215-18
 Identifiers: surface analysis nickel tin electroplate,
 secondary ion mass spectrometry surface, ion scattering
 spectrometry surface electroplate, Rutherford backscattering
 surface analysis, oxide detn nickel tin electroplate,
 hydroxide detn nickel tin electroplate

CA08914122599K

Descriptores: Hydrxides; Oxides, analysis; Surface
 Identifiers: detn nickel tin electroplate ion scattering
 Rutherford backscattering secondary mass spectrometry nonbase
 surfaces alloy
 CAS Registry Numbers: 7440-02-0 7440-31-5 11110-83-1

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 DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 1 of 55) User:4930 18jan79

CA09002012740N
 Secondary ion mass spectrometry and Auger electron spectroscopy investigations of Vb metal foils prepared for hydrogen permeation measurements
 Author: Boes, N., Zuechner, H.
 Location: Inst. Phys. Chem., Univ. Muenster, Muenster, Ger.
 Section: CA066003 Publ Class: JOURNAL
 Journal: Surf. Technol. Coden: SUTED8 Publ: 78
 Series: 7 Issue: 5 Pages: 401-11
 Identifiers: hydrogen permeation Vb metal foil, vanadium foil permeation hydrogen, niobium foil permeation hydrogen, tantalum foil permeation hydrogen

CA09002012740N
 Descriptors: Electron emission, Auger, Group Vb elements, Mass spectra, secondary-ion
 Identifiers: properties permeation through foils niobium tantalum vanadium corrosion cleaning relation hydrogen spectroscopy Auger study uses miscellaneous films Group Vb use
 CAS Registry Numbers: 1333-74-0 7440-03-1 7440-05-3 7440-25-7 7440-62-2

CA089262255738
 The gas ion probe: a novel instrument for analyzing concentration profiles of gases in solids
 Author: Kiko, J., Mueller, H. W., Buechler, K., Kalbitzer, S., Kirsten, T., Warhaut, M.
 Location: Max-Planck-Inst. Kernphys., Heidelberg, Ger.
 Section: CA079006 Publ Class: TECH REP
 Journal: Report Coden: D2REPU Publ: 77 Issue: MPI-H-77-V-40, AED-Conf-77-602-001, Pages: 10 pp.
 Citation: INIS Atomindex 1978, 9(17), Abstr. No. 394143
 Avail: INIS
 Identifiers: lunar sample analysis rare gas, rare gas profile ion microprobe, secondary ion mass spectrometry, helium profile detn lunar sample, neon profile detn lunar sample

CA089262255738
 Descriptors: Helium-group gases, analysis, Mass spectrometers and spectrographs, secondary-ion, Mass spectroscopy, secondary-ion, Moon, Solids
 Identifiers: detn profile lunar samples probe thermalizing box rare materials
 CAS Registry Numbers: 7440-01-9 7440-59-7

CA08926224849J
 SIMS study of iron-nickel and iron-chromium alloys. III. Dependence of emission of diatomic cluster ions on alloy composition
 Author: Riedel, M., Nenadovic, T., Perovic, B.

Location: Boris Kidric Inst. Nucl. Sci., Belgrade, Yugoslavia
 Section: CA076011 Publ Class: JOURNAL
 Journal: Acta Chim. Acad. Sci. Hung. Coden: ACASA2
 Publ: 78 Series: 97 Issue: 2 Pages: 197-206
 Identifiers: secondary ion mass spectrometry alloy, iron alloy SIMS cluster, nickel iron alloy SIMS cluster, chromium iron alloy SIMS cluster, cluster iron SIMS iron alloy, SIMS iron alloy clustering

CA08926224849J
 Descriptors: Mass spectra, secondary-ion, Mass spectroscopy, secondary-ion
 Identifiers: base emission diat cluster ions iron alloys multiple component comps
 CAS Registry Numbers: 11123-62-9 37303-81-4

CA08926224848H
 SIMS study of iron-nickel and iron-chromium alloys. I. Investigation of the sputtering of the alloys
 Author: Riedel, M., Nenadovic, T., Perovic, B.
 Location: Boris Kidric Inst. Nucl. Sci., Belgrade, Yugoslavia

Section: CA076011 Publ Class: JOURNAL
 Journal: Acta Chim. Acad. Sci. Hung. Coden: ACASA2
 Publ: 78 Series: 97 Issue: 2 Pages: 177-85
 Identifiers: sputtering SIMS iron alloy, chromium iron alloy SIMS sputtering, nickel iron alloy SIMS sputtering, mass spectrometry SIMS alloy sputtering, secondary ion mass spectrometry alloy

CA08926224848H
 Descriptors: Mass spectra, secondary-ion, Mass spectroscopy, secondary-ion, Sputtering
 Identifiers: nonbase effects base iron alloys multiple component systems
 CAS Registry Numbers: 11123-62-9 37303-81-4

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DIALOG File4: CA SEARCH 77-78/VOL 90(02) (Copr. Am. Chem. Soc.) (Item 5 of 55) User4930 18Jan79

CA08924202234C
 Inspection of hardened boron steels
 Author: Fujino, Mitsukatsu, Murayama, Junichiro
 Location: Japan
 Section: CA055005 Pubi Class: PAT Pubi: 780802
 Journal: Japan. Kokai Coden: JKKXAF
 Pages: 4 pp.
 Identifiers: steel hardening boron solid soln, mass
 spectrometry boron steel
 Patent No: 78 87796 Applic No: 77/3287 Date: 770113
 Class: G01N33/20
 Assignee: Sumitomo Metal Industries, Ltd.

CA08924202234C
 Identifiers: uses miscellaneous steel hardening alloying
 secondary ion mass spectrometry anal boron alloy
 CAS Registry Numbers: 7440-42-8 12597-69-2

CA08923196484R
 Secondary ion mass spectrometry. Cationization of organic
 molecules with metals
 Author: Grade, M., Cooks, R. G.
 Location: Dep. Chem., Purdue Univ., West Lafayette, Indiana
 Section: CA022002 Pubi Class: JOURNAL
 Journal: J. Am. Chem. Soc. Coden: JACSAT Pubi: 78
 Series: 100 Issue: 18 Pages: 5615-21
 Identifiers: secondary ion mass spectrometry, cationization
 org mol metal

CA08923196484R
 Descriptors: Ionization in gases, cationization; Mass
 spectroscopy, secondary-ion; Metals, reactions; Organic
 compounds, reactions
 Identifiers: relation properties silver comds nonbase mols
 CAS Registry Numbers: 87-85-4 95-54-5 120-12-7 150-13-0
 623-26-7 1317-39-1 7440-06-4 7440-22-4 7447-39-4 7761-88-8
 12865-23-5

CA08922190279F
 Digital image processing in ion microscope analysis: study
 of crystal structure effects in secondary ion mass
 spectrometry
 Author: Fassett, J. D., Morrison, G. M.
 Location: Dep. Chem., Cornell Univ., Ithaca, N. Y.
 Section: CA079001, CA075111, CA078111 Pubi Class: JOURNAL
 Journal: Anal. Chem. Coden: ANCHAM Pubi: 78 Series:
 Issue: 13 Pages: 1981-6
 Identifiers: secondary ion mass spectroscopy analysis,
 digital image processing ion microanalysis, crystal structure
 effect ion microanalysis, iron polycryst ion microprobe
 analysis

CA08922190279F
 Descriptors: Crystal structure; Mass spectroscopy, secondary-ion;
 Ion; Photographs; Surface structure polycryst digital image
 Identifiers: analysis anal polycryst digital image
 processing intensity contrast microanal effect sample
 CAS Registry Numbers: 7439-89-6

CA08922189781G
 Secondary ion mass spectrometry depth profiling and
 simultaneous electrical investigation of MOS structures
 Author: Barsony, I., Marton, D., Giben, J.
 Location: Phys. Inst., Tech. Univ. Budapest, Budapest, Hung.
 Section: CA076013 Pubi Class: JOURNAL
 Journal: Thin Solid Films Coden: THSFAP Pubi: 78
 Series: 51 Issue: 3 Pages: 275-85
 Identifiers: mass spectrometric depth profile MOS, secondary
 ion mass spectrometry, silicon silica depth profile, interface
 charge silica silicon, semiconductor MOS elec compn

CA08922189781G
 Descriptors: Electric property; Energy level, surface; Mass
 spectroscopy, secondary-ion; Semiconductor
 devices, metal-oxide-semiconductor
 Identifiers: properties spectroscopic depth profiling study
 structures contg simultaneous profile relation investigation
 CAS Registry Numbers: 7440-21-3 7831-86-9

CA08922189416S
 Secondary ion mass spectrometry
 Author: Okano, Jun
 Location: Coll. Gen. Educ., Osaka Univ., Osaka, Japan
 Section: CA076000 Pubi Class: JOURNAL
 Journal: Zairyo Kagaku Coden: ZAKGAS Pubi: 77
 Series: 14 Issue: 2 Pages: 112-19 Language: Japan
 Identifiers: review secondary ion mass spectrometry

CA08922189416S
 Descriptors: Mass spectroscopy, secondary-ion