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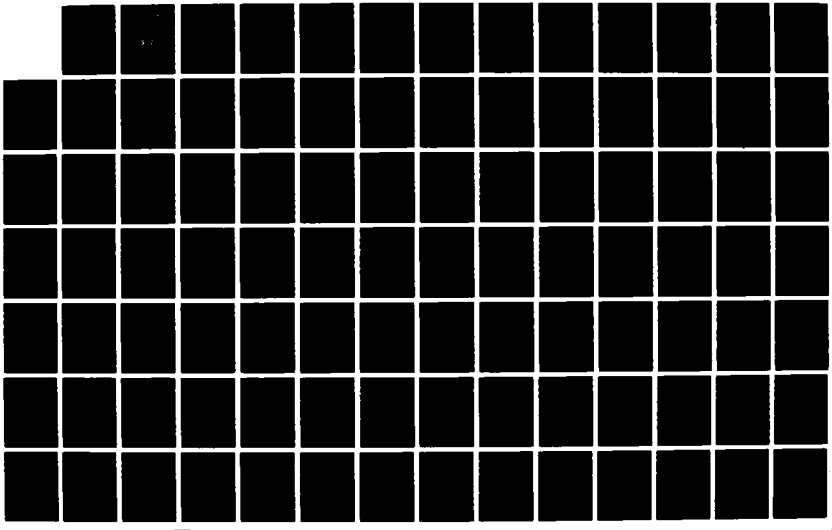

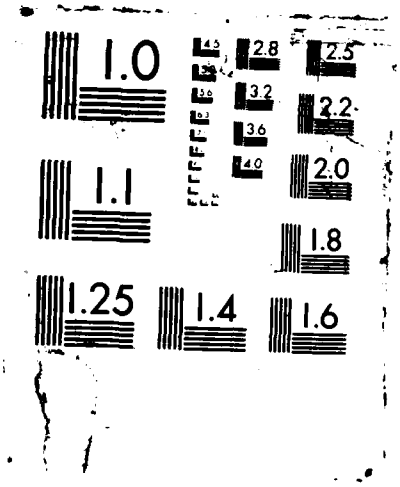
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# Bibliography of Soviet Laser Developments

## September - October 1985




Defense Intelligence Agency



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# BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 79

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Vice Director for Foreign Intelligence
Defense Intelligence Agency


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20. ABSTRACT

This is the Soviet Laser Bibliography for September-October 1985, and is No. 79 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications systems; beam propagation; adaptive optics; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.

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# INTRODUCTION

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is September-October 1985, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Soviet Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library.

Since our computer is not now able to print between lines, superscripts and subscripts are indicated by (sup) and (sub).

We are now producing the entire bibliography on computer. To make our bibliography compatible with other data bases, we have converted the source abbreviations from our previous practice of those used in the Soviet Union to the letter codens generally used in our own government. Likewise, we have converted the affiliations designations from numbers to letter codens. The authors' affiliations are indicated in parentheses after the authors' names in the text. Empty parentheses indicate the affiliation was not given. A source abbreviations list, authors' affiliations list, and author index are included in the back of the bibliography.

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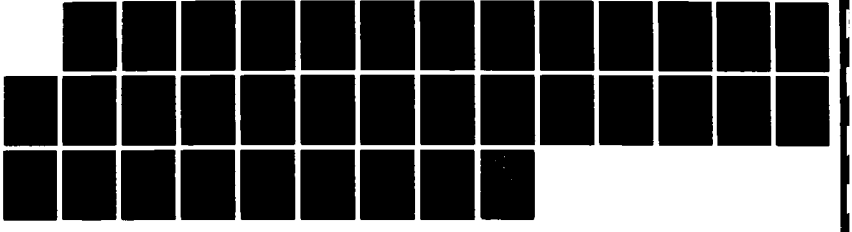

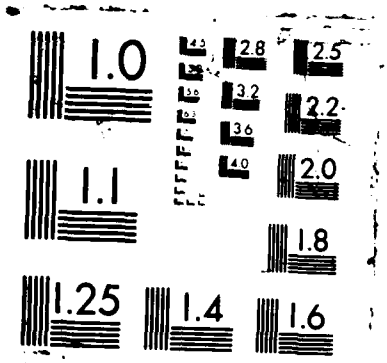
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## IV. SOURCE ABBREVIATIONS

(Note: CTC = cover-to-cover translation available)

| | |
|---|---|
| AKZHA | Akusticheskiy zhurnal (CTC) |
| APAHA | Acta physica academiae scientiarum hungaricae (now APHUE) |
| APHUE | Acta physica hungarica (Budapest) (formerly APAHA) |
| APYCA | Acta physica et chemica. Szeged |
| ATPLB | Acta physica polonica. Series A |
| AVMEB | Avtometriya (CTC) |
| BPBEE | Buletinul Institutului politehnic Gheorghe Gheorghiu-Dej, Bucuresti. Seria energetica |
| BWATA | Biuletyn Wojskowej akademii technicznej imeni Jaroslawa Dabrowskiego |
| CCCCA | Collection of Czechoslovak Chemical Communications (Prague) |
| CFJOBOQu | Fruehjahrsschule Optik: Beitraege zur Optik und Quantenelektronik |
| CMSPMEFE | Mezhinstitutskiy seminar: Primeneneiye mikro-EVM v fizicheskom eksperimente |
| CMSVPIPP | Mezhduvedomstvennyy seminar-vystavka: Polucheniye, issledovaniye i primeneniye prozrachnoy segnetokeramiki |
| CRABA | Bolgarskaya akademiya nauk. Doklady (formerly: Bulgarska akademiya na naukite. Doklady) |
| CRKMUSKE | Respublikanskaya konferentsiya molodykh uchenykh po spektroskopii i kvantovoy elektroniki |
| CSUSSNPS | Simpozium uchenykh sotsialisticheskikh stran po novym problemam spektroskopii |

| | |
|---|---|
| CVSFVZCh | Vsesoyuznoye soveshchaniye po fizike vzaimodeystviya zaryazhennykh chastits s kristallam |
| CVShYaFi | Vsesoyuznaya shkola po yadernoy fizike |
| CVSPEIMF | Vsesoyuznyy seminar: Progress eksperimental'nykh issledovaniy na mezonnoy fabrike IYaI AN SSSR |
| CZYPA | Czechoslovak Journal of Physics |
| DANKA | Akademiya nauk SSSR. Doklady (CTC) |
| DBLRA | Akademiya nauk BSSR. Doklady |
| DEFKA | Defektoskopiya (CTC) |
| DUKAB | Akademiya nauk Ukrayns'koy RSR. Dopovidi. Seriya A. Fiziko-matematychni ta tekhnichni nauki |
| EKNTB | Elektronika (Warsaw) |
| EKVZA | Elektrosvyaz' (CTC) |
| ELKTA | Elektrotekhnika (CTC) |
| ELVEA | Elektrotehniski vjesnik |
| EOBMA | Elektronnaya obrabotka materialov (CTC) |
| ETFMB | Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika |
| EXPPA | Eksperimentelle Technik der Physik |
| FGRTA | Feingeraetetechnik |
| FGVZA | Fizika goreniya i vzryva (CTC) |
| FIPLD | Fizika plazmy (Moskva, AN SSSR) (CTC) |
| FISZA | Fizikai szemle (Budapest) |
| FKSTD | Fizika i khimiya stekla (CTC) |
| FMBMA | Fiziko-matematichesko spisanie. Bulgarska akademiya na naukite |

| | |
|---|---|
| FTPPA | Fizika i tekhnika poluprovodnikov (CTC) |
| FTVTA | Fizika tverdogo tela (CTC) |
| FZELA | Fizicheskaya elektronika (sbornik, L'vov) |
| IAAFA | Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika |
| IANFA | Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya (CTC) |
| IVNMA | Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy (CTC) |
| IVUBA | Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye (CTC) |
| IVUFA | Izvestiya vysshikh uchebnykh zavedeniy. Fizika (CTC) |
| IVUOA | Izvestiya vysshikh uchebnykh zavedeniy. Gornyy zhurnal |
| IVUSA | Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye |
| IVUZB | Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika |
| IVYRA | Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika (CTC) |
| IZFMB | Akademiya nauk Moldavskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk |
| IZTEA | Izmeritel'naya tekhnika (CTC) |
| KHFID | Khimicheskaya fizika (CTC) |
| KHVKA | Khimiya vysokikh energiy (CTC) |
| KLMIA | Klinicheskaya meditsina |
| KNKTA | Kinetika i kataliz (CTC) |
| KRISA | Kristallografiya (CTC) |
| KRSFA | Kratkiye soobshcheniya po fizike (CTC) |

| | |
|---|---|
| KVEKA | Kvantovaya elektronika (journal, Moskva) (CTC) |
| KVELA | Kvantovaya elektronika (sbornik, Kiyev) |
| MKETA | Mikroelektronika (journal, Moskva) (CTC) |
| MSRGA | Messen, Steuern, Regeln (East Berlin) |
| MTOMA | Metallovedeniye i termicheskaya obrabotka metallov (CTC) |
| MTRLB | Metrologiya |
| NACHA | Nachrichtentechnik-Elektronik (GDR) |
| NASRD | Nauka v SSSR |
| OPAPB | Optica applicata (Poland) |
| OPMPA | Optiko-mekhanicheskaya promyshlennost' (CTC) |
| OPSPA | Optika i spektroskopiya (CTC) |
| OTIZD | Otkrytiya, izobreteniya |
| PAUKA | Pomiary, automatyka, kontrola |
| PFKMD | Poverkhnost'. Fizika, khimiya, mekhanika (Moskva) |
| PRSUB | Pribory i sistemy upravleniya (CTC) |
| PRTEA | Pribory i tekhnika eksperimenta (CTC) |
| PSSAB | Physica status solidi (A). Applied Research (GDR) |
| PSSBB | Physica status solidi (B). Basic Research (GDR) |
| PZTFD | Zhurnal tekhnicheskoy fiziki. Pis'ma (CTC) |
| RAELA | Radiotekhnika i elektronika (journal, Moskva)(CTC) |
| RATEA | Radiotekhnika (journal, Moskva) (CTC) |
| RRPQA | Revue Roumaine de Physique |
| RTKHA | Radiotekhnika (sbornik, Khar'kov) |
| RZETA | Rozprawy elektrotechniczne |

| | |
|---|---|
| RZFZA | Referativnyy zhurnal. Fizika |
| RZGFA | Referativnyy zhurnal. Geofizika |
| RZMKA | Referativnyy zhurnal. Mekhanika |
| RZRAB | Referativnyy zhurnal. Radiotekhnika |
| SAKNA | Akademiya nauk Gruzinskoy SSR. Soobshcheniya |
| SBBPA | Studia Universitatis Babes-Bolyai. Physica (Cluj) |
| SCEFA | Studii si cercetari de fizica |
| STALA | Stal |
| SUDOA | Sudostroyeniye (Leningrad) |
| TEHBA | Tehnika (Yugoslavia) |
| TKHMA | Tekhnika molodezhi |
| TKTEA | Tekhnika kino i televideniya |
| TVYTA | Teplofizika vysokikh temperatur (CTC) |
| UFNAA | Uspekhi fizicheskikh nauk (CTC) |
| UFZHA | Ukrainskiy fizicheskiy zhurnal (CTC) |
| VANSA | Akademiya nauk SSSR. Vestnik (CTC) |
| VBSFA | Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk |
| VKPRB | Kiyevskiy politekhnicheskiy institut. Vestnik. Seriya radioelektronika |
| VMUFA | Moskovskiy universitet. Vestnik. fizika, astronomiya (CTC) |
| WZHMA | Wissenschaftliche Zeitschrift der Humboldt Universitaet zu Berlin. Mathematisch-naturwissenschaftliche Reihe (East Berlin) |

| | |
|---|---|
| ZAKHA | Zhurnal analiticheskoy khimii (CTC) |
| ZDBEA | Zdravookhraneniye Belorussii |
| ZETFA | Zhurnal eksperimental'noy i teoreticheskoy fiziki (CTC) |
| ZFPRA | Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma (CTC) |
| ZNOKA | Zhurnal neorganicheskoy khimii (CTC) |
| ZNPFA | Zhurnal nauchnoy i prikladnoy fotografii i kinematografii (CTC) |
| ZPKHA | Zhurnal prikladnoy khimii |
| ZPMFA | Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki (CTC) |
| ZPSBA | Zhurnal prikladnoy spektroskopii (CTC) |
| ZTEFA | Zhurnal tekhnicheskoy fiziki (CTC) |
| ZUNBA | Zhurnal ushnykh, nosovykh i gorlovykh bolezney |
| ZVDLA | Zavodskaya laboratoriya (CTC) |
| ZVMFA | Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki (CTC) |

## V. AUTHOR AFFILIATIONS

AAO
Abastumanskaya astrofizicheskaya observatoriya AN GruzSSR
Abastumani Astrophysical Observatory, Academy of Sciences Georgian SSR

AFI
Astrofizicheskiy institut AN Kaz SSR
Astrophysical Institute, Academy of Sciences Kazakh SSR

API
Altayskiy politekhnicheskiy institut
Altay Polytechnical Institute, Barnaul

BGU
Belorusskiy gos universitet
Belorussian State University

DFTI
Donetskiy fiziko-tekhnicheskiy institut AN UkrSSR
Donetsk Physicotechnical Institute, Academy of Sciences Ukrainian SSR

FIAN
Fizicheskiy institut im Lebedeva AN SSSR
Physics Institute imeni Lebedev, Academy of Sciences USSR, Moscow

FIANKuy
Kuybyshevskiy filial Fizicheskogo instituta AN SSSR
Kuybyshev Branch of the Physics Institute, Academy of Sciences USSR

FTI
Fiziko-tekhnicheskiy institut im Ioffe AN SSSR
Physicotechnical Institute im Ioffe, Academy of Sciences USSR, Leningrad

FTIANTadzh
Fiziko-tekhnicheskiy institut AN TadzhSSR
Physicotechnical Institute, Academy of Sciences Tadzhik SSR, Dushanbe

GGU
Gor'kovskiy gos universitet
Gor'kiy State University

GOI
Gosudarstvennyy opticheskiy institut im Vavilova
State Optical Institute imeni Vavilov, Leningrad

IAE
Institut atomnoy energii im Kurchatova
Institute of Atomic Energy imeni Kurchatov, Moscow

IAESOAN
Institut avtomatiki i elektrometrii SOAN
Institute of Automation and Electronic Measurements, Siberian Branch Academy of Sciences USSR

IBFiz
Institut biologicheskoy fiziki AN SSSR
Institut of Biological Physics, Academy of Sciences USSR, Pushchino

IEANBel
Institut elektroniki AN BSSR
Institute of Electronics, Academy of Sciences Belorussian SSR, Minsk

IED
Institut elektrodinamiki AN UkrSSR
Institute of Electrodynamics, Academy of Sciences Ukrainian SSR

IEM
Institut eksperimental'noy meteorologii
Institute of Experimental meteorology, Obninsk

IFANB
Institut fiziki AN BSSR
Institute of Physics, Academy of Sciences Belorussian SSR, Minsk

IFANBMO
Mogilevskiy filial Instituta fiziki AN BSSR
Mogilev Branch of the Institute of Physics, Academy of Sciences Belorussian SSR

IFANLa
Institut fiziki AN LatSSR
Institut of Physics, Academy of Sciences Latvian SSR, Salaspils

IFANLi
Institut fiziki AN LitSSR
Institute of Physics, Academy of Sciences Lithuanian SSR

IFANUk
Institut fiziki AN UkrSSR
Institute of Physics, Academy of Sciences Ukrainian SSR, Kiev

IFI
Institut fizicheskikh issledovaniy AN ArmSSR
Institute of Physics Research, Academy of Sciences Armenian SSR

IFPV
Institut fiziki poluprovodnikov AN LitSSR
Institute of Semiconductor Physics, Academy of Sciences Lithuanian SSR, Vilnius

IFSOAN
Institut fiziki SOAN
Institute of Physics, Siberian Branch Academy of Sciences USSR, Krasnoyarsk

IFTT
Institut fiziki tverdogo tela AN SSSR
Institute of Solid State Physics, Academy of Sciences USSR, Chernogolovka

IFTTP
Institut fiziki tverdogo tela i poluprovodnikov AN BSSR
Institute of Solid State and Semiconductor Physics, Academy of Sciences Belorussian SSR, Minsk

IFZ
Institut fiziki Zemli im Shmidta AN SSSR
Institute of Physics of the Earth imeni Shmidt, Academy of Sciences USSR

IGM
Institut gidromekhaniki AN UkrSSR
Institute of Hydromechanics, Academy of Sciences Ukrainian SSR, Kiev

IGU
Irkutskiy gos universitet
Irkutsk State University

IKAN
Institut kristallografii AN SSSR
Institute of Crystallography, Academy of Sciences USSR, Moscow

IKhAN
Institut khimii AN SSSR
Institute of Chemistry, Academy of Sciences USSR, Gor'kiy

IKhF
Institut khimicheskoy fiziki AN SSSR
Institute of Physics of Chemistry, Academy of Sciences USSR, Chernogolovka

IKI
Institut kosmicheskikh issledovaniy AN SSSR
Institute of Space Research, Academy of Sciences USSR

IMET
Institut metallurgii im Baykova
Institute of Metallurgy imeni Baykov, Moscow

Informelektro
Tsentral'nyy NII informatsii i tekhniko-ekonomicheskikh issledovaniy v elektrotekhnike
Central Scientific Research Institute of Information and Technical Economic Research in Electric Engineering, Moscow

INKhS
Institut neftekhimicheskogo sinteza AN SSSR
Institute of Petrochemical Synthesis, Academy of Sciences USSR, Moscow

IOA
Institut optiki atmosfery SOAN
Institute of Atmospheric Optics, Siberian Branch Academy of Sciences USSR

IOAN
Institut okeanologii AN SSSR
Institute of Oceanography, Academy of Sciences USSR, Moscow

IOF
Institut obshchey fiziki AN SSSR
Institute of General Physics, Academy of Sciences USSR, Moscow

IONKh
Institut obshchey i neorganicheskoy khimii im Kurnakova AN SSSR
Institute of General and Inorganic Chemistry imeni Kurnakov, Academy of Sciences USSR, Moscow

IPANUk
Institut poluprovodnikov AN UkrSSR
Institute of Semiconductors, Academy of Sciences Ukrainian SSR, Kiev

IPF
Institut prikladnoy fiziki AN SSSR
Institute of Applied Physics, Academy of Sciences USSR, Gor'kiy

IPFANM
Institut prikladnoy fiziki AN MSSR
Institute of Applied Physics, Academy of Sciences Moldavian SSR, Kishinev

IPM
Institut prikladnoy matematiki AN SSSR
Institute of Applied Mathematics, Academy of Sciences USSR

IPMe
Institut problem mekhaniki AN SSSR
Institute of Problems of Mechanics, Academy of Sciences USSR, Moscow

IPMekh
Institut prikladnoy mekhaniki AN SSSR
Institute of Applied Mechanics, Academy of Sciences USSR

IPPMM
Institut prikladnykh problem mekhaniki i matematiki AN UkrSSR
Institute of Applied Problems in Mechanics and Mathematics, Academy of Sciences Ukrainian SSR, L'vov

IPTMOM
Institut problem tekhnologii mikroelektroniki i osobochistykh materialov AN SSSR
Institute for Problems of the Technology of Microelectronics and Extra Pure Materials, Academy of Sciences USSR, Chernogolovka

IRE
Institut radiotekhniki i elektroniki AN SSSR
Institute of Radioengineering and Electronics, Academy of Sciences USSR, Moscow

IRFEANUk
Institut radiofiziki i elektroniki AN UkrSSR
Institute of Radiophysics and Electronics, Academy of Sciences Ukrainian SSR

ISAN
  Institut spektroskopii AN SSSR
  Institute of Spectroscopy, Academy of Sciences USSR
ISE
  Institut sil'notochnoy elektroniki SOAN
  Institute of High-Current Electronics, Siberian Branch Academy of Sciences USSR, Tomsk
ITEF
  Institut teoreticheskoy i eksperimental'noy fiziki
  Institute of Theoretical and Experimental Physics, Moscow
ITeFUk
  Institut teoreticheskoy fiziki AN UkrSSR
  Institute of Theoretical Physics, Academy of Sciences Ukrainian SSR, Kiev
ITF
  Institut teplofiziki SOAN
  Institute of Thermophysics, Siberian Branch Academy of Sciences USSR, Novosibirsk
ITMO
  Institut teplo- i massoobmena AN BSSR
  Institute of Heat and Mass Exchange, Academy of Sciences Belorussian SSR
ITPM
  Institut teoreticheskoy i prikladnoy mekhaniki SOAN
  Institute of Theoretical and Applied Mechanics, Siberian Branch Academy of Sciences USSR, Novosibirsk
IVTAN
  Institut vysokikh temperatur AN SSSR
  Institute of High Temperatures, Academy of Sciences USSR
IYaFANUz
  Institut yadernoy fiziki AN UzSSR
  Institute of Nuclear Physics, Academy of Sciences Uzbek SSR, Ulugbek
IYaFSOAN
  Institut yadernoy fiziki SOAN
  Institute of Nuclear Physics, Siberian Branch Academy of Sciences USSR, Novosibirsk
IYaIAN
  Institut yadernykh issledovaniy AN SSSR
  Institute of Nuclear Research, Academy of Sciences USSR, Moscow
IZMIRAN
  Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR
  Institute of Terrestrial Magnetism, the Ionosphere and Radiowave Propagation, Academy of Sciences USSR
KabbalkGU
  Kabardino-Balkarskiy GU
  kabardino-Balkarskian State University, Nal'chik

KaGU
Kazanskiy gos universitet
Kazan' State University
KalinGU
Kalininskiy gos universitet
Kalinin State University
KeGU
Kemerovskiy gos universitet
Kemerov State University
KGU
Kiyevskiy gos universitet
Kiev State University
KhGU
Khar'kovskiy gos universitet
Khar'kov State University
KIYaI
Institut yadernykh issledovaniy AN UkrSSR
Institute of Nuclear Research, Academy of Sciences Ukrainian SSR, Kiev
KPIA
Kiyevskiy politekhnicheskiy institut
Kiev Polytechnic Institute
KuAI
Kuybyshevskiy aviatsionnyy institut
Kuybyshev Aviation Institute
LatGU
Latviyskiy gos universitet
Latvian State University
LETI
Leningradskiy elektrotekhnicheskiy institut
Leningrad Electric Engineering Institute
LGU
Leningradskiy gos universitet
Leningrad State University
LIAP
Leningradskiy institut aviatsionnogo priborostroyeniya
Leningrad Institute of Aviation Instrument Manufacture
LITMO
Leningradskiy institut tochnoy mekhaniki i optiki
Leningrad Institute of Precision Mechanics and Optics
LIYaF
Leningradskiy institut yadernoy fiziki im B.P. Konstantinova, AN SSSR
Leningrad Institute of Nuclear Physics imeni B.P. Konstantinov, Academy of Sciences USSR, Leningrad
LNIVTs
Leningradskiy NI vychislitel'nyy tsentr AN SSSR
Leningrad Scientific Research Computer Center, Academy of Sciences USSR

LPI
Leningradskiy politekhnicheskiy institut
Leningrad Polytechnic Institute
LSGMI
Leningradskiy sanitarno-gigiyenicheskiy meditsinskiy institut
Leningrad Medical Institute of Public Health
LvGU
L'vovskiy gos universitet
L'vov State University
MAI
Moskovskiy aviatsionnyy institut
Moscow Aviation Institute
MarGU
Mariyskiy GU
Mari State University, Yoshkar-Ola
MATI
Moskovskiy aviatsionnyy tekhnologicheskiy institut
Moscow Aviation Technical Institute
MEI
Moskovskiy energeticheskiy institut
Moscow Power Engineering Institute
MEIS
Moskovskiy elektrotekhnicheskiy institut svyazi
Moscow Electrotechnical Institute of Communications
MFTI
Moskovskiy fiziko-tekhnicheskiy institut
Moscow Physicotechnical Institute
MGU
Moskovskiy gos universitet
Moscow State University
MIET
Moskovskiy institut elektronnoy tekhniki
Moscow Institute of Electronic Engineering
MIFI
Moskovskiy inzhenerno-fizicheskiy institut
Moscow Engineering Physics Institute
MIIT
Moskovskiy institut inzhenerov zheleznodorozhnogo transporta
Moscow Institute of Railroad Transport Engineers
MinGMI
Minskiy gos meditsinskiy institut
Minsk State Medical Institute
MIREA
Moskovskiy institut radiotekhniki, elektroniki i avtomatiki
Moscow Institute of Radio Engineering, Electronics and Automation

MKhTI
Moskovskiy khimiko-tekhnologicheskiy institut im Mendeleyeva
Moscow Institute of Chemical Technology imeni Mendeleyev

MRI
Minskiy radiotekhnicheskiy institut
Minsk Radio Engineering Institute

NEIS
Novosibirskiy elektrotekhnicheskiy institut svyazi
Novosibirsk Electrotechnical Institute of Communications

NETI
Novosibirskiy elektrotekhnicheskiy institut
Novosibirsk Electrical Engineering Institute

NIFKhI
NI fiziko-khimicheskiy institut im Karpova
Scientific Research Institute of Physicochemistry imeni Karpov

NIIBIKhS
NII po biologicheskim ispytaniyam khimicheskikh soyedineniy
Scientific Research Institute for Biological Tests of Chemical Compounds, Kupavna, Moscow Region

NIIFKS
NII fiziki kondensirovannykh sred Yerevanskogo gos universiteta
Scientific Research Institute of the Physics of Condensed Media of Yerevan State University

NIIFL
NII fiziki pri Leningradskom gos universitete
Scientific Research Institute of Physics at Leningrad State University

NIIFOd
NII fiziki Odesskogo gos universiteta
Scientific Research Institute of Physics of Odessa State University

NIIFRGU
NII fiziki Rostovskogo gos universiteta
Scientific Research Institute of Physics of Rostov State University

NIIFTT
NII fiziki tverdogo tela Latviyskogo GU
Scientific Research Institut of Solid State Physics of the Latvian State University, Riga

NIIGAiK
Novosibirskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii
Novosibirsk Institute for Engineers of Geodesy, Aerial Surveying and Cartography

NIIMPS
NII meditsinskikh problem Severa SO AMN SSSR
Scientific Research Institute of Medical Problems of the North, Siberian Branch Academy of Medical Sciences USSR

NIIYaF
NII yadernoy fiziki pri Moskovskom gos universitete
Scientific Research Institute of Nuclear Physics at Moscow State University

NIIYaFEA
NII yadernoy fiziki, elektroniki i avtomatiki pri Tomskom politekhnicheskom institute
Scientific Research Institute of Nuclear Physics, Electronics and Automation at Tomsk Polytechnic Institute

NIIYaFT
NII yadernoy fiziki Tomskogo politekhnicheskoy instituta
Scientific Research Institute of Nuclear Physics of Tomsk Polytechnic Institute

NITsTLAN
NI tsentr po tekhnologicheskim lazeram AN SSSR
Scientific Research Center for Industrial Lasers, Academy of Sciences USSR

NSPGAN
Nauchnyy sovet AN SSSR po probleme "Golografiya"
Scientific Council on Holography, Academy of Sciences USSR

OIYaI
Ob"yedinennyy institut yadernykh issledovaniy
Joint Institute of Nuclear Research, Dubna

RRTI
Ryazanskiy radiotekhnicheskiy institut
Ryazan' Radio Engineering Institute

SAO
Spetsial'naya astrofizicheskaya observatoriya AN SSSR
Special Astrophysical Observatory, Academy of Sciences USSR

SGI
Sverdlovskiy gornyy institut
Sverdlovsk Mining Institute

SKBAPNTO
Spetsial'noye konstruktorskoye byuro analiticheskogo priborostroyeniya Nauchno-tekhnicheskogo obshchestva AN SSSR
Special Design Bureau for Analytical Instrument Manufacture of the Scientific and Technical Society, Academy of Sciences USSR

SMI
Smolenskiy gosudarstvennyy meditsinskiy institut
Smolensk State Medical Institute

TashGU
Tashkentskiy gos universitet
Tashkent State University

ToPI
Tomskiy politekhnicheskiy institut
Tomsk Polytechnic Institute

TsNIIE
Tsentral'nyy NII "Elektronika"
"Elektronika" Central Scientific Research Institute, Moscow

TsNIIGAiK
Tsentral'nyy NII geodezii, aerofotos"yemki i kartografii
Central Scientific Research Institute of Geodesy, Aerial Photography and Cartography, Moscow

TsNIIKIF
Tsentral'nyy NII kurortologii i fizioterapii Ministerstva zdravokhraneniya SSSR
Central Scientific Research Institute of Health Resort Treatment and Physiotherapy, USSR Ministry of Health

TsNIIMTMash
Tsentral'nyy NII materialov i tekhnologii tyazhelogo i transportnogo mashinostroyeniya
Central Scientific Research Institute of Materials and Technology for Heavy and Transportation Machine Building, Sverdlovsk

TyuGU
Tyumenskiy gos university
Tyumen State University

UDN
Universitet druzhby narodov im Lumumby
University of Friendship Among Peoples imeni Lumumba, Moscow

UkrIIVKh
Ukrainskiy institut inzhenerov vodnogo khozyaystva
Ukrainian Institute of Water Management Engineers, Rovno

UkrNIINTI
Ukrainskiy NII nauchno-tekhnicheskoy informatsii i tekhniko-ekonomicheskikh issledovaniy Gosplana UkrSSR
Ukrainian Scientific Research Institute of Scientific and Technical Information and of Technical Economic Studies for the State Plan of the Ukrainian SSR, Kiev

UralNIITP
Ural'skiy NII trubnoy promyshlennosti
Ural Scientific Research Institute of the Pipe Industry

UrPI
Ural'skiy politekhnicheskiy institut
Ural Polytechnical Institute, Sverdlovsk

UzhGU
  Uzhgorodskiy gos universitet
  Uzhgorod State University
VGI
  Vysokogornyy geofizicheskiy institut
  High-Altitude Geophysical Institute, Nal'chik
VilGU
  Vil'nyusskiy gos universitet
  Vilnius State University
VINITI
  Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii
  All-Union Institute of Scientific and Technical Information, Moscow
VMI
  Voroshilovgradskiy mashinostroitel'nyy institut
  Voroshilovgrad Machine Building Institute
VNIFTRI
  VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy
  All-Union Scientific Research Institute of Physico-technical and Radiotechnical Measurements, Moscow
VNIINP
  VNII po pererabotke nefti
  All-Union Scientific Research Institute of Oil Refining, Moscow
VNIISV
  VNII sinteticheskikh volokon
  All-Union Scientific Research Institute of Synthetic Fibers, Kalinin
VNIITEMR
  VNII informatsii i tekhniko-ekonomicheskikh issledovaniy po mashinostroyeniyu i rabototekhnike Ministerstva stankostroitel'noy i instrumental'noy promyshlennosti
  All-Union Scientific Research Institute of Information and Technical Economic Studies on Machinebuilding and Robotics, Ministry of the Machine Tool and Instrument Industry, Moscow
VNIIYaGG
  VNII yadernoy geofiziki i geokhimii
  All-Union Scientific Research Institute of Nuclear Geophysics and Geochemistry, Moscow

# VI. AUTHOR INDEX

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