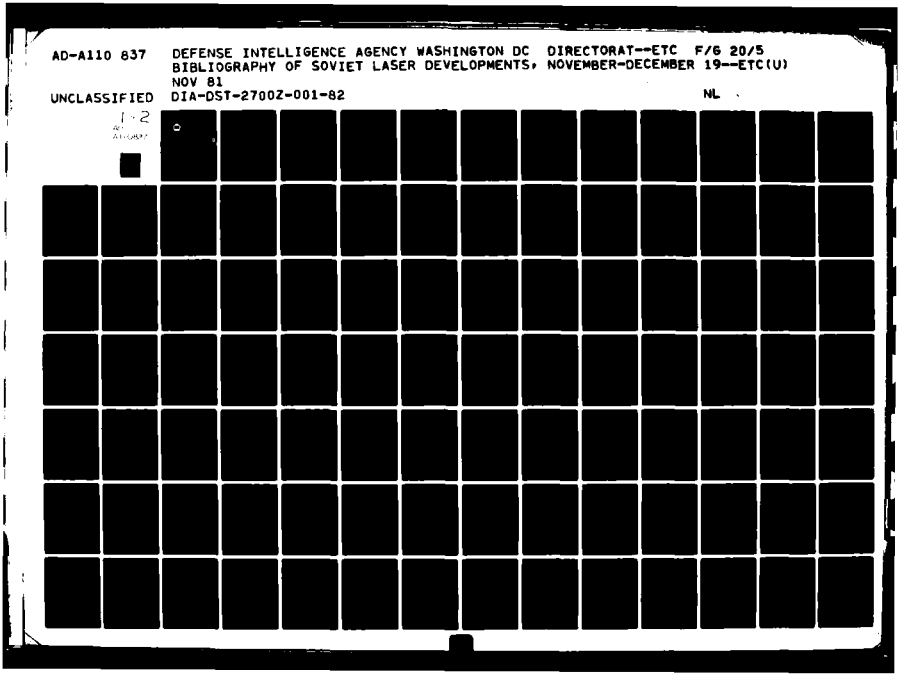
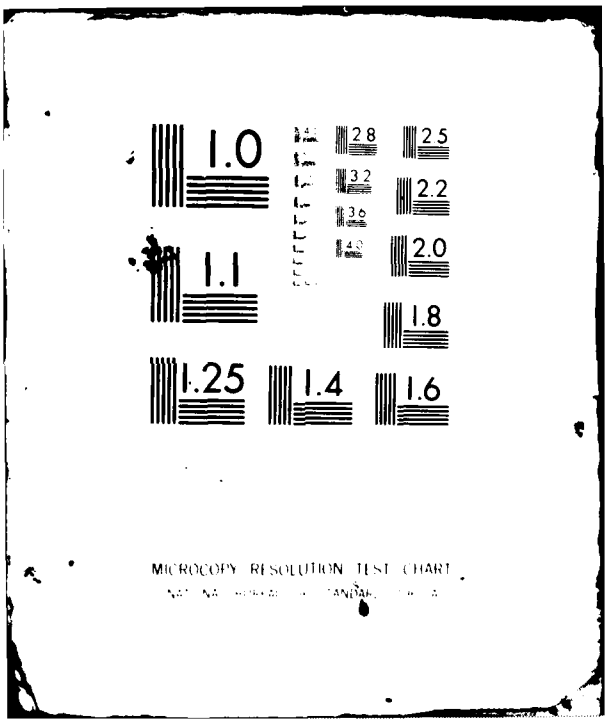
AD-A110 837 DEFENSE INTELLIGENCE AGENCY WASHINGTON DC DIRECTORAT--ETC F/G 20/5
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NOVEMBER-DECEMBER 19--ETC(U)
NOV 81

UNCLASSIFIED DIA-DST-2700Z-001-82 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
MICROCOPY RESOLUTION TEST CHART

LEVEL II (12)

DST-2700Z-001-82

DEFENSE
INTELLIGENCE
AGENCY

Bibliography of Soviet Laser Developments (U)

November—December 1980

JANUARY 1982

DST-2700Z-001-82

12

BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 50

NOVEMBER - DECEMBER 1980

Date of Report

November 30, 1981

Vice Director for Foreign Intelligence
Defense Intelligence Agency

This document was prepared for the Defense Intelligence Agency under an intragovernment agreement. It is intended to facilitate access of government researchers to Soviet laser literature.

Comments should be addressed to the Defense Intelligence Agency, Directorate for Scientific and Technical Intelligence, ATTN: DT-1A

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DST-2700Z-001-82	2. GOVT ACCESSION NO. AD-A110837	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, No. 50 NOVEMBER - DECEMBER 1980		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Defense Intelligence Agency Directorate for Scientific and Technical Intelligence, ATTN: DT-1A		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE November 30, 1981 13. NUMBER OF PAGES 118
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. Distribution Statement (of the abstract entered in Block 20, if different from report)

18. Supplementary Notes

19. KEY WORDS

Solid state Lasers, Liquid Lasers, Gas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, X-Ray Lasers, Gamma Lasers, Laser Theory, Laser Biological Effects, Laser Communications, Laser Beam Propagation, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Parameters, Laser Measurement Applications, Laser-Excited Optical Effects, Laser Spectroscopy, Laser Beam-Target Interaction, Laser Plasma

20. ABSTRACT

This is the Soviet Laser Bibliography for November-December 1980, and is No. 50 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; theoretical aspects of advanced lasers; and general laser theory.
Laser applications are listed under biological effects; communications; beam propagation; 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.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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 November-December 1980, 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 Russian Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) 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. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

SOVIET LASER BIBLIOGRAPHY, NOVEMBER - DECEMBER 1980

TABLE OF CONTENTS

I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

2. Crystal: Rare-Earth Activated

a. Nd^{3+}

1. Dmitriyev, V.G., A.A. Kazakov, and Ye.A. Shalayev (0). Single pulse Nd^{3+} YAG laser operating at 1.318 μm. KE, no. 12, 1980, 2652-2654.

2. Gaponov, S.V., L.V. Paramonov, N.N. Salashchenko, and Ya.I. Khanin (426). Nonlinear optical effects producing a giant pulse in an Nd laser with an organic fluid in the cavity. KE, no. 11, 1980, 2432-2436.

3. Golyayev, Yu.D., K.N. Yevtyukhov, and L.N. Kaptsov (0). Stabilizing the power of c-w Nd:YAG laser radiation. RiE, no. 11, 1980, 2467-2469.

4. Gusev, A.A., S.V. Kruzhalov, B.V. L'vov, L.N. Pakhomov, and V.Yu. Petrun'kin (29). Stable Nd:YAG laser with longitudinal mode lock. ZhTF P, no. 22, 1980, 1356-1357.

5. Gusev, A.A., S.V. Kruzhalov, B.V. L'vov, L.N. Pakhomov, and V.Yu. Petrun'kin (29). Frequency modulation of a Nd:YAG laser with frequency doubling and mode lock. ZhTF P, no. 22, 1980, 1361-1363.

6. Kaminskiy, A.A., Ngoc Tran, S.E. Sarkisov, V.N. Matrosov, and M.I. Timoshechkin (0). Growth, spectral and laser properties of $La_2Be_2O_5:Nd^{3+}$ crystals in the $^4F_{3/2} \rightarrow {}^4I_{11/2}$ and $^4F_{3/2} \rightarrow {}^4I_{13/2}$ transitions. PSS, v. A59, no. 1, 1980, 121-132. (RZhF, 12/80, 12D967)

7. Kovalenko, Ye.S., and A.Ye. Mandel' (0). Nonstationary processes in Nd:YAG lasers with stimulated mode lock. ZhPS, v. 33, no. 5, 1980, 828-835.

8. Makhrov, Ye.T. (0). Optimizing the characteristics of a YAG laser with optical pumping by expendable flashlamps. KE, no. 12, 1980, 2649-2652.

3. Crystal: Miscellaneous

9. Belokoneva, Ye.L., M.A. Simonov, A.V. Pashkova, T.I. Timchenko, and N.V. Belov (2). Crystalline structure of a high-temperature monocline modification of $NdAl_3(BO_3)_4$. DAN SSSR, v. 205, no. 4, 1980, 854-858.

10. Valbis, Ya.A., and M.Ye. Springis (0). Physical problems in developing tunable solid state lasers in the UV. Sb 1, 16-29. (RZhF, 11/80, 11D941)

11. Vetrogon, G.I., V.I. Danilenko, V.Ya. Kabanchenko, V.V. Osiko, A.M. Prokhorov, A.N. Terent'yevskiy, and M.I. Timoshechkin (1,17). EPR spectrum of Cr^{3+} ions in YAG. FTT, no. 11, 1980, 3216-3221.

4. Semiconductor: Simple Junction

a. GaAs

12. Luk'yanov, V.N., A.T. Semenov, and S.D. Yakubovich (141). Stationary characteristics of an injection quantum amplifier based on GaAs with a narrow band input signal. KE, no. 11, 1980, 2460-2466.

b. CdS

13. Senoner, M., W. Unger, and J. Voigt (NS). Spatial and spectral distribution of emission from optically pumped CdS platelet lasers. PSS, v. A58, no. 1, 1980, 259-269. (RZhF, 11/80, 11D947)

5. Semiconductor: Mixed Junction

6. Semiconductor: Heterojunction

14. Aarik, Ya., A. Gerst, P. Lyuk, A. Niylisk, A. Rozental', and Ya. Fridental (0). Shortwave lasing threshold in GaSb-$Al_xGa_{1-x}As_ySb_{1-y}$ heterolasers. Sb 2, 17-20.

15. Arsent'yev, I.N., B.P. Zakharchenya, V.I. Kalevich, V.D. Kul'kov, V.D. Rumyantsev, and V.G. Fleysher (4). Optical orientation of electrons and nuclei in GaInP and GaInAsP crystals. FTT, no. 11, 1980, 3378-3385.

16. Bert, N.A., A.T. Gorelenok, A.G. Dzigasov, S.G. Konnikov, T.B. Popova, I.S. Tarasov, and V.K. Tibilov (0). InGaAsP solid solutions isoperiodic with InP. Avtometriya, no. 6, 1980, 11-21.

17. Bert, N.A., S.G. Konnikov, and V.Ye. Umanskiy (0). X-ray study on the structure of heteroepitaxial layers using electron probing. Avtometriya, no. 6, 1980, 37-45.

18. Bogatov, A.P., P.G. Yeliseyev, G.T. Mikayelyan, and B.N. Sverdlov (1). Injection GaInPAs/InP heterolaser with 6°-7° beam divergence operating in non-waveguide modes. KE, no. 11, 1980, 2487-2488.

19. Goldobin, I.S., V.D. Kurnosov, V.N. Luk'yanov, A.T. Semenov, S.M. Sapozhnikov, N.V. Shelkov, and S.D. Yakubovich (141). Study on a two-component injection heterolaser. KE, no. 11, 1980, 2489-2491.

20. Gun'ko, N.A., S.G. Konnikov, T.B. Popova, and E.A. Tropp (0). Using the Monte Carlo method to solve problems of x-ray microspectral analysis of thin heteroepitaxial layers and of structures based on them. Avtometriya, no. 6, 1980, 45-53.

21. Herman, M.A. (NS). Modern heterojunction lasers. Postepy fizyki, no. 3, 1980, 207-227. (RZhF, 11/80, 11D948)

22. Karikh, Ye.D., V.D. Kurnosov, I.S. Manak, S.M. Sapozhnikov, and A.F. Shilov (3). Spectral and time characteristics of GaAlAs double heterostructure lasers. IVUZ Fiz, no. 11, 1980, 26-29.

23. Kasparov, K.N., and S.Yu. Rakhley (0). Optical properties of $In_xGa_{1-x}As_{1-y}P_y$ epitaxial films at the intrinsic absorption edge. ZhPS, v. 33, no. 5, 1980, 860-863.

24. Kyul'moya, T.Kh., and E.K. Tal'viste (0). Semiconductor emitter as a quadrupole. Sb 2, 28-29.

25. Rammo, I.Kh., V.L. Babson, and Yu.E. Khaller (0). Dependence of an efficient refractive index in an AlGaAs-GaAs heterolaser on the parameters of the resonator. Sb 2, 32-34.

26. Simashkevich, A.V., and P.A. Gashin (0). Heterojunctions in $A^{II}B^{VI}$ compounds and their application. Sb 2, 12-16.

27. Yeliseyev, P.G., M.Sh. Kobyakova, G.T. Pak, V.V. Popovichev, and S.N. Sokolov (1). Mesa-structure injection heterolaser with a substrate heat sink. KE, no. 11, 1980, 2504-2506.

7. Semiconductor: Theory

28. Bakinovskiy, K.N., O.I. Lappo, and N.N. Shavel' (334). Optical pulse source. PTE, no. 6, 1980, 197.

29. Bazhenov, V.Yu., A.P. Bogatov, Yu.V. Gurov, P.G. Yeliseyev, O.G. Okhotnikov, G.T. Pak, M.P. Rakhval'skiy, M.S. Soskin, V.B. Taranenko, and K.A. Khayretdinov (1). Optical heterodyning of the radiation from an injection laser with an external dispersing resonator. KE, no. 12, 1980, 2642-2644.

30. Hoai, T.X., and K.H. Herrmann (NS). Photocarrier distribution and photomagnetoelectric effect in semiconductors near the threshold of stimulated emission. PSS, v. A59, no. 1, 1980, 57-62. (RZhF, 11/80, 11Ye1213)

31. Ptashchenko, A.A. (0). Degradation of LED's. ZhPS, v. 33, no. 5, 1980, 781-803.

32. Valiyev, K.A. (0). Problems in producing the elementary base for super large scale integration in computers. Mikroelektronika, no. 6, 1980, 483-490.

8. Glass: Nd

33. Alekseyev, V.N., A.N. Zhilin, and V.N. Chernov (0). Experimental study on gain saturation for a nanosecond laser pulse in neodymium glasses. KE, no. 12, 1980, 2637-2639.

34. Alimov, O.K., T.T. Basiyev, and Yu.K. Voron'ko (1). Study on the fine structure of inhomogeneously broadened absorption bands for Nd^{3+} ions in glass, using a selective excitation method. KE, no. 11, 1980, 2477-2480.

35. Denker, B.I., A.Ya. Karasik, G.V. Maksimova, A.A. Malyutin, V.V. Osiko, P.P. Pashinin, A.M. Prokhorov, and I.A. Shcherbakov (1). Laser active material. Otkr izobr, no. 48, 1980, 680577.

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine

36. Smirnov, V.S. (0). Method of decreasing the divergence of radiation from a flashlamp-pumped rhodamine 6G laser. OiS, v. 49, no. 5, 1980, 962-967.

37. Voytovich, A.P., L.P. Runets, and A.Ya. Smirnov (3). Frequency lock-on and narrowing of the emission spectrum of a dye laser on an atomic absorption line. ZhTF P, no. 22, 1980, 1400-1403.

b. Polymethine

38. Smirnova, T.N., and Ye.A. Tikhonov (5). Optimal lasing conditions in dye lasers with directional pumping. Institut fiziki AN UkrSSR. Preprint, no. 5, 1980, 43 p. (RZhF, 12/80, 12D997)

c. Coumarin

39. Zhestkova, T.P., G.G. Ryabchikova, and A.K. Pikayev (0). Pulsed photolysis of 4-methyl-7-oxycoumarin in ethanol solution. ZhPS, v. 33, no. 5, 1980, 934-937.

d. *Miscellaneous Dyes*

40. Gruzinskiy, V.V., V.I. Danilova, T.N. Kopylova, and G.V. Mayyer (0). Short wave limit to fluorescence and lasing in benzoxazoles. ZhPS, v. 33, no. 5, 1980, 931-933.

41. Stoylov, Yu.Yu. (1). Development of lasers using vapors of complex organic compounds. Fizicheskiy institut AN SSSR. Preprint, no. 78, 1980, 12 p. (RZhF, 12/80, 12D1055)

2. Inorganic Liquids

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

42. Kapralov, V.P., P.S. Krylov, A.V. Mironov, V.Ye. Privalov, and L.P. Tkachenko (0). Study on a Standart-460M He-Ne laser with stabilization by saturation absorption in iodine 127. OiS, v. 49, no. 5, 1980, 958-961.

43. Kozin, G.I., I.P. Konovalov, V.N. Petrovskiy, Ye.D. Protsenko, and A.N. Rurukin (16). Gas laser with intracavity phase anisotropy. KE, *no.* 11, 1980, 2405-2415.

44. Pavlov, A.V., V.A. Polishchyuk, and M.P. Chayka (0). Dichroism in a direct current discharge in Ne. OiS, v. 49, no. 5, 1980, 998-1000.

45. Zhuk, V.P., Ye.A. Petrukhin, and A.F. Savushkin (0). Determining the relaxation constant for the neon $3s_2$-$3p_4$ transition from a study on the absorption line wing. KE, no. 11, 1980, 2474-2477.

2. Molecular Beam and Ion

a. CO_2

46. Abil'siitov, G.A., A.V. Artamonov, Ye.P. Velikhov, Yu.A. Yegorov, A.V. Kazhidub, F.V. Lebedev, Ye.M. Sidorenko, V.V. Sumerin, and V.M. Frolov (23). Stationary 10 kw commercial CO_2 laser. KE, no. 11, 1980, 2467-2471.

47. Baranov, V.Yu., D.D. Malyuta, V.S. Mezhevov, and A.P. Napartovich (23). Effect of fluctuations in gas density on the threshold characteristics of a periodic pulsed laser with UV preionization. KE, no. 12, 1980, 2589-2593.

48. Bazarov, Ye.N., G.A. Gerasimov, V.P. Gubin, A.I. Sazonov, N.I. Starostin, and V.V. Fomin (15). Frequency stabilization of a waveguide high-pressure CO_2 laser by resonances of the saturated absorption of a $^{192}OsO_4$ molecule. KE, no. 12, 1980, 2646-2649.

49. Bertel', I.M., V.O. Petukhov, B.I. Stepanov, S.A. Trushin, and V.V. Churakov (3). Lasing at 4.3 μm in a TEA CO_2 laser. DAN SSSR, v. 255, no. 6, 1980, 1353-1356.

50. Bertel', I.M., V.O. Petukhov, S.A. Trushin, and V.V. Churakov (3). C-w sealed-off CO_2 laser with line selection on the first two band sequences. ZhTF P, no.24, 1980, 1501-1505.

51. Dumitras, D.C. (NS). Study of waveguide CO_2 lasers. SCF, no. 6, 1980, 599-645. (RZhF, 12/80, 12D1038)

52. Dutov, A.I., V.B. Nikolayev, and M.S. Yur'yev (0). Distribution of the electric field in an electroionization CO_2 laser discharge. ZhTF, no. 11, 1980, 2307-2314.

53. Grigoriu, C. (NS). Role of additives in a transversely-excited CO_2 laser. SCF, no. 6, 1980, 587-598. (RZhF, 12/80, 12D1041)

54. Kuchinskiy, A.A., V.A. Rodichkin, and V.A. Smirnov (247). Pulsed CO_2 laser with UV preionization by capillary discharge radiation. ZhTF, no. 12, 1980, 2567-2572.

55. Kudryavtsev, N.N., and S.S. Novikov (118). Radiation and absorptivity of CO molecules at 4.7 μm and CO_2 at 4.3 and 2.7 μm in the absence of equilibrium between vibrational and reciprocal-rotational degrees of freedom. TVT, no. 6, 1980, 1161-1167.

56. Kuzyakov, B.A., and V.F. Khor'kov (106). Amplifying a 10.6 μm signal in a waveguide discharge tube. IVUZ Radioelektr, no. 11, 1980, 3-7.

57. Kuzyakov, B.A., and Yu.B. Il'in (19). Losses in a hollow dielectric channel of a waveguide CO_2 laser. Tr 1, 3-37. (RZhF, 12/80, 12D1047)

58. Kuzyakov, B.A., and V.F. Khor'kov (308). Compact single-mode CO_2 laser. Tr 2, 112-118. (RZhF, 12/80, 12D1045)

59. Kuzyakov, B.A., and V.F. Khor'kov (308). Effect of the discharge parameters on the characteristics of a waveguide CO_2 laser. Tr 2, 119-124. (RZhF, 12/80, 12D1048)

60. Novgorodov, M.Z., N.N. Sobolev, and L.I. Shumskaya (1). Interferometric study on plasma density in an electric discharge pulsed CO_2 laser. KE, no. 11, 1980, 2326-2329.

61. Novgorodov, M.Z., and E.S. Chokoyev (1). Hybrid CO_2 laser with frequency degenerate modes. KE, no. 11, 1980, 2502-2504.

62. Poponin, V.P. (74). Theoretical study and optimization of pulsed CO_2 lasers pumped by a non-self-sustained discharge. Institut vysokikh temperatur AN SSSR. Dissertation, 1980, 22 p. (KLDV, 12/80, 17470)

63. Shukurov, N. (29). Study of a laser using transitions of CO_2 molecules, allowing for heterogeneous reactions. Leningradskiy politekhnicheskiy institut. Dissertation, 1980, 24 p. (KLDV, 12/80, 17509)

64. Zaklyaz'minskiy, L.A., and R.S. Rozhkov (0). Effect of propane combustion on the coefficient of gain in a supersonic flow. FGiV, no. 6, 1980, 104-105.

65. Zhabotinskiy, M.Ye., and B.A. Kuzyakov (15). Discharge characteristics of a waveguide CO_2 laser using a structure of metal and a high reflection coating. KE, no. 11, 1980, 2472-2474.

b. Argon

66. Grigoryan, Yu.I., A.Ye. Martirosyan, M. Novak, V.O. Papanyan (59), and M. Chvojka (Czech, Russ transliteration: M. Khvoyka). Ionization waves in an argon discharge in a longitudinal gas flow. Fizika plazmy, no. 6, 1980, 1357-1360.

c. N_2

67. Kolar, I. (NS). Pulsed nitrogen laser. Elektrotehnicki vestnik, no. 5, 1979, 345-347. (RZhF, 12/80, 12D1035)

68. Sulakshin, S.S. (336). Numerical model for an Ar-N_2 laser with high current charged particle beam pumping. IVUZ Fiz, no. 12, 1980, 10-14.

d. Submillimeter

69. Svich, V.A., N.G. Pokormyakho, and A.N. Topkov (34). Optically-pumped D_2O^{18} submillimeter laser. ZhTF P, no. 21, 1980, 1281-1283.

70. Topkov, A.N., V.A. Svich, and N.G. Pokormyakho (34). Stabilized HCN laser with high-frequency pumping. PTE, no. 6, 1980, 151-153.

e. Metal Vapor

71. Andreyeva, T.L., S.I. Kanorskiy, V.M. Kaslin, V.N. Sorokin, and O.F. Yakushev (1). Optically-pumped Bi_2 laser. KSpF, no. 6, 1980, 22-27. (RZhF, 12/80, 12D1057)

72. Arlantsev, S.V., V.V. Buchanov, L.A. Vasil'yev, E.I. Molodykh, V.V. Tykotskiy, and N.I. Yurchenko (0). Study on a periodic pulsed copper vapor laser. KE, no. 11, 1980, 2319-2325.

73. Babenko, S.M., I.S. Lakoba, and S.I. Yakovlenko (1). Kinetic model of the active medium in a helium-strontium laser. KSpF, no. 11, 1980, 26-33.

74. Buzhinskiy, O.I., S.A. Kuznetsova, I.A. Slivitskaya, and A.A. Slivitskiy (0). Study on the time evolution of beam divergence for lasing pulses from a transverse discharge Cu laser. KE, no. 12, 1980, 2644-2646.

75. Galutva, G.V., S.B. Opalev, A.S. Orlov, and A.I. Ryazantsev (308). Thermodynamic calculation for the concentration of metal vapor over the melt as used in copper vapor lasers. Tr 2, 37-41. (RZhF, 12/80, 12D1013)

76. Grishin, N.I., M.K. Dyatlov, V.G. Kas'yan, and V.G. Levin (0). The durability of He-Cd lasers. ZhPS, v. 33, no. 5, 1980, 822-827.

77. Lebedev, V.V., A.S. Provorov, B.I. Troshin, A.A. Chernenko, and V.P. Chebotayev (159). Lasing at 518 nm in magnesium vapors under resonant pumping. ZhTF P, no. 22, 1980, 1364-1367.

f. Gasdynamic

78. Belkov, P.V., V.V. Val'ko, A.S. D'yakov, N.N. Ostroukhov, and B.K. Tkachenko (16). Gasdynamic CO_2 laser based on a mixture containing CO. KE, no. 11, 1980, 2385-2392.

79. Podduyev, M.I. (0). Numerical modeling of two-dimensional nonstationary flows of a relaxing gas. DAN B, no. 8, 1980, 702-704. (RZhF, 12/80, 12D1051)

80. Potapkin, B.V., V.D. Rusanov, A.Ye. Samarin, A.A. Fridman, and G.V. Sholin (0). Dissociation of vibrationally excited CO_2 molecules in a plasma under equilibrium conditions of vibrational modes. KhVE, no. 6, 1980, 547-553.

81. Yevtyukhin, N.V. (67). CO_2 gasdynamic laser using combustion products of a C_2H_2-CO-N_2O-N_2 mixture. KE, no. 12, 1980, 2635-2637.

3. Excimer

82. Aleksandrov, N.L., I.V. Kochetov, A.P. Napartovich, V.G. Pevgov, and A.N. Starostin (118). Electron kinetic coefficients in a weakly ionized plasma with strong adhesion. Fizika plazmy, no. 6, 1980, 1365-1369.

83. Basov, N.G., V.S. Zuyev, A.V. Kanayev, L.D. Mikheyev, and D.B. Stavrovskiy (1). Lasing from the triatomic excimer Kr_2F under optical pumping. KE, no. 12, 1980, 2660-2661.

84. Bychkov, Yu.I., I.N. Konovalov, V.F. Losev, G.A. Mesyats, A.M. Prokhorov, I.N. Sisakyan, V.F. Tarasenko, and A.G. Filonov (0). Lasing from XeF* and XeBr* molecules during Raman pumping in a laser with a 28 liter capacity. ZhTF P, no. 24, 1980, 1483-1487.

85. Gavrilova, Yu.Ye., V.S. Zrodnikov, A.D. Klementov, and A.S. Podsosonnyy (1). Electric-discharge HgI* excimer laser. KE, no. 11, 1980, 2495-2497.

86. Lyutskanov, V.L, Kh.G. Khristov, and I.V. Tomov (Bulgarians) Frequency tuning a gas discharge XeCl laser. KE, no. 11, 1980, 2493-2494.

87. Shevera, V.S., A.K. Shuaibov, A.N. Malinin, and S.Yu. Gerts (0). Study on the efficiency of forming single halides of inert gases in a pulsed discharge through a dielectric. OiS, v. 49, no. 6, 1980, 1205-1206.

4. Theory

88. Babenko, S.M., and S.I. Yakovlenko (23). Operation of a self-pumped laser. Institut atomnoy energii. Preprint, no. 3262/6, 24 p. (RZhF, 12/80, 12D1063)

89. Gonschorek, G., C.W. Moench, and S. Schwan (NS). Pulsed gas laser with an extremely low pulse repetition rate. Patent GDR, no. 141228, 16 May 1980. (RZhRadiot, 11/80, 11Ye119)

90. Grasyuk, A.Z., V.S. Letokhov, and V.V. Lobko (1,72). IR molecular lasers with resonant laser pumping. KE, no. 11, 1980, 2261-2298.

91. Ishchenko, V.N., S.A. Kochubey, V.N. Lisitsyn, and P.L. Chapovskiy (159). Frequency tuning of high-pressure pulsed gas lasers. Institut teplofiziki SOAN. Preprint, no. 54, 1980, 32 p. (RZhF, 12/80, 12D1021)

92. Ivanchenko, A.I., and A.A. Shepelenko (193). Effect of an inhomogeneity in the gas flow rate on the spatial homogeneity of a glow discharge. ZhTF, no. 12, 1980, 2551-2555.

93. Margolin, A.D., A.V. Mishchenko, and V.M. Shmelev (67). Nonstationary distribution of nonequilibrium energy in a mixture of H_2 and HD. KhVE, no. 6, 1980, 554-559.

D. CHEMICAL LASERS

1. $F_2+H_2(D_2)$

94. Nikerov, V.A., V.D. Rusanov, A.D. Sidorenko, and G.V. Sholin (0). Effect of progressive nonequilibrium of particles on the radiation kinetics of a thermonuclear HF laser. Sb 3, 115-117. (RZhF, 11/80, 11D1028)

95. Nikerov, V.A., and G.V. Sholin (0). E-beam initiated chain reaction of hydrogen with fluorine and chlorine in optically active media. ZhTF, no. 11, 1980, 2459-2461.

2. Photodissociative

96. Zuyev, V.S., K.S. Korol'kov, O.Yu. Nosach, and Ye.P. Orlov (1). Experimental study on internal losses in iodine lasers pumped by UV radiation from a high-current gap discharge. KE, no. 12, 1980, 2604-2613.

3. Transfer

97. Wiederhold, G., and G. Wanie (NS). Device for optical pumping of molecular gas lasers. Patent GDR, no. 141092, 9 April 1980. (RZhRadiot, 12/80, 12Ye27)

4. CS_2+O_2

98. Gordon, Ye.B., S.Ye. Nalivayko, and V.S. Pavlenko (67). Pulsed photo-initiated chemical CS_2+O_2 laser operating on harmonic transitions ($\Delta v=2$) of a CO molecule. KE, no. 11, 1980, 2330-2336.

5. Miscellaneous

99. Belkov, P.V., V.V. Val'ko, A.S. D'yakov, N.N. Ostroukhov, and Yu.A. Kulagin (118). Exciting an asymmetrical mode in CO_2 in a stationary nonequilibrium chemical reaction between CO and N_2O. ZhTF, no. 11, 1980, 2407-2414.

100. Bespalov, O.G., V.V. Veselovskiy, A.I. Nastyukha, and O.A. Kushlyanskiy (0). Laser based on the red lines of atomic fluorine pumped by a pulsed hollow cathode glow discharge. ZhTF P, no. 24, 1980, 1487-1490.

101. Izmaylov, I.A., and V.A. Kochelap (6). Coefficient of optical gain in recombination reactions of halogen atoms. KE, no. 12, 1980, 2543-2551.

E. COMPONENTS

1. Resonators

a. Design and Performance

102. Anan'yev, Yu.A. (0). Unstable laser resonator. Otkr izobr, no. 48, 1980, 530606.

103. Badziak, J., and A. Dubicki (NS). Effect of amplification factor distribution on space, time and energy radiation characteristics in amplifying systems. JTP, no. 4, 1980, 449-461.

104. Bunkin, S.B., and Yu.B. Konev (74). Characteristics of unstable resonators with field distortions in their components. Part 1. Cylindrical mirrors. KE, no. 11, 1980, 2416-2421.

105. Bunkin, S.B., and Yu.B. Konev (74). Characteristics of unstable resonators with field distortions in their components. Part 2. Spherical mirrors. KE, no. 11, 1980, 2422-2426.

106. Czechowicz, R. (NS). Stability of laser resonators filled with a linear active medium. Geometric optics approach. BWAT, no. 6, 1980, pp not given. (RZhF, 12/80, 12D964)

107. Kosinskiy, Yu.I., and I.P. Pugach (51). Ring resonator with slight distortion of the geometry of the closed optical-beam circuit. VKU, no. 21, 1980, 80-83. (RZhF, 12/80, 12D963)

108. Nenchev, M.N. (NS). Laser which lases in a narrow spectrum near a fixed frequency. Author's certificate Bulgaria, no. 26929, 25 July 1979. (RZhRadiot, 11/80, 11Ye213)

109. Vorontsov, V.I., and Yu.N. Parkhomenko (51). Dispersion resonator with a diffraction grating. VKU, no. 21, 1980, 90-95. (RZhF, 12/80, 12D962)

110. Zabelin, A.M., S.K. Isayev, L.S. Korniyenko, and V.V. Firsov (2). C-w laser with a lightguide resonator. VMU, no. 6, 1980, 23-27.

b. Mode Kinetics

111. Dubik, A., K. Jach, and J. Badziak (NS). Controlling the spatial field parameters in a resonator with an amplifying medium. JTP, no. 4, 1980, 441-448.

2. Pump Sources

112. Agafonov, V.G., M.G. Verdiyev, and N.Yu. Davidyuk (4). Vaporizing system for cooling high-power radiation sources based on an array of heterostructure LED's. ZhTF, no. 11, 1980, 2415-2420.

113. Albrecht, H., H. Guendel, and K. Seliger (NS). Compact cold-cathode electron gun. ETP, no. 2, 1980, 143-152. (RZhF, 12/80, 12Zh467)

114. Bedilov, M.R., and Kh.B. Beysembayeva (85). Radiation from an Nd:YAG laser irradiated by neutrons. UFZh, no. 11, 1980, 1853-1857.

115. Bel'kov, Ye.P., and P.N. Dashuk (29). Restoring the electrical strength to a discharge gap after a grazing discharge on a dielectric surface. ZhTF, no. 11, 1980, 2315-2320.

116. Herbst, H. (NS). Discharge tube and method for its regeneration in gas-discharge lasers. Patent GDR, no. 141737, 14 May 1980. (RZhRadiot, 11/80, 11Ye336)

117. Ivanov, V.V., V.G. Nikiforov, and A.G. Rozanov (0). Physical mechanism of the destruction of flashlamps. TVT, no. 6, 1980, 1288-1291.

118. Kuz'min, M.V., and V.N. Sazonov (1). Full population inversion in a multilevel quantum system during adiabatic reversal of an external resonant field. ZhETF P, v. 79, no. 5, 1980, 1759-1768.

119. Panfilov, D.I., V.S. Ivanov, and V.N. Sirik (119). Method for functional control of the output voltage of a charger. Author's certificate USSR, no. 738114, 30 May 1980. (RZhRadiot, 11/80, 11Ye344)

120. Panfilov, D.I., V.S. Ivanov, and V.N. Sirik (119). Device for charging a capacitance energy storage. Author's certificate USSR, no. 744933, 2 July 1980. (RZhRadiot, 12/80, 12Ye311)

121. Stefanov, V.Y., and M.N. Nenchev (NS). System for obtaining a discharge with intense preionization in gas-discharge flashlamps. Author's certificate Bulgaria, no. 22738, 15 Sep 1979. (RZhRadiot, 11/80, 11Ye341)

122. Vladimirov, V.V., V.N. Gorshkov, A.I. Shchedrin, and V.F. Shanskiy (5). Effect of the natural magnetic field from a plasma current on the motion of a fast electron beam in a self-terminating discharge. ZhTF, no. 11, 1980, 2321-2324.

123. Zelenin, A.Ye., A.N. Pustovit, and G.G. Sikharulidze (66). Energy distribution of ions from a spark ion source. ZhTF, no. 11, 1980, 2347-2355.

124. Zhigalkin, A.K., and Yu.L. Sidorov (1). Extended source for UV preionization of pulsed gas lasers. PTE, no. 6, 1980, 146-148.

3. Deflectors

125. Alekseyenko, V.I., R.Yu. Bansevichus, A.V. Busilas, K.M. Ragul'skis, and M.A. Rytov (104). Two-coordinate scanning device. Author's certificate USSR, no. 742853, 25 June 1980. (RZhRadiot, 12/80, 12Ye117)

126. Yurchikov, B.M., V.Ya. Goverdovskiy, and V.B. Fedorov (0). Control device using a multistage electrooptic light deflector. PTE, no. 6, 1980, 142-145.

4. Diffraction Gratings

127. Peysakhson, I.V. (0). Using concave diffraction gratings in spectral instruments. ZhPS, v. 33, no. 5, 1980, 947-956.

5. Lenses

128. Nikolov, I.D., and P.P. Angelov (7). Objective with a removable pupil. OMP, no. 12, 1980, 12-13.

129. Pozdnyakov, A.Ye. (7). Correcting for induced aberrations during the evaluation of optical systems for transforming laser beams. OMP, no. 11, 1980, 21-23.

6. Filters

130. Bel'tyugov, V.N., and Yu.V. Troitskiy (75). Double frequency selection in lasers using a reflecting interferometer with an anisotropic filler. KE, no. 11, 1980, 2299-2305.

131. Kuznetsov, B.V. (7). Controlled step interference polarization filter. OMP, no. 11, 1980, 59-60.

132. Markin, A.S., V.B. Studenov, and A.A. Ioltukhovskiy (161). Filtering out harmonics of coherent sources by means of zone plates. ZhTF, no. 11, 1980, 2482-2484.

133. Yakobi, Yu.A. (193). Tuning the lasing spectrum of a laser by means of intracavity spatial filtering. Institut teoreticheskoy i prikladnoy mekhaniki SOAN. Preprint, no. 23, 1980, pp not given. (RZhF, 11/80, 11D1062)

7. Mirrors

134. Denisov, Yu.V., V.A. Kizel', V.A. Orlov, and N.F. Perevozchikov (16). Properties of radiation from a laser with liquid crystal mirrors. KE, no. 11, 1980, 2482-2484.

135. Kolesov, V.S., and S.Ya. Gicheva (0). Quality of the optical surface of laser mirrors. FiKhOM, no. 6, 1980, 15-20.

136. Rafikov, R.A. (7). Using synthetic holograms as compensators for shaping active mirrors. OMP, no. 11, 1980, 35-36.

8. Detectors

137. Averin, V.I., B.Z. Gorbenko, V.B. Lebedev, and B.M. Stepanov (141). "AGAT" E-O camera. PTE, no. 6, 1980, 214.

138. Bykovskiy, Yu.A., V.V. Zuyev, A.D. Kiryukhin, and V.A. Shkaranda (16). Sublinear volt ampere characteristics of long n^+-n_i-n^+ structures based on n-type silicon doped with gold. FTP, no. 11, 1980, 2184-2187.

139. Ravinovich, V.S. (302). Noise-rejection in a detector of two-component composite signals. Tr 3, 41-48. (RZhRadiot, 11/80, 11Ye366)

140. Rivlin, A.A. (0). MOM diode as an IR mixer. IT, no. 11, 1980, 33.

141. Yelfimov, O.V., V.F. Kosorotov, L.S. Kremenchugskiy, and S.K. Sklyarenko (5). Coordinate-sensitive pyroelectric radiation detectors. Institut fiziki AN UkrSSR. Preprint, no. 3, 1980, 45 p.

9. Modulators

142. Apel, B. (NS). Device for regulating the intensity of irradiation by means of a lens. Patent GDR, no. 141367, 23 April 1980. (RZhRadiot, 11/80, 11Ye332)

143. Berezhnoy, A.A., N.B. Sidorenko (0). Study on a double electrooptic effect in $m3m$ symmetry group crystals. OiS, v. 49, no. 5, 1980, 1005-1008.

144. Bidenko, V.A., I.M. Grankin, A.P. Zapunnyy, and V.G. Khaustov (106). Acoustooptic modulator. Sb 4, 133-137. (RZhRadiot, 12/80, 12Ye111)

145. Blagodarov, A.N., V.D. Zhuravov, I.V. Kochnev, V.Ya. Kunin, S.F. Morozov, A.V. Rodionov, and V.I. Fomichev (29). MIS light modulators based on the Franz-Keldysh effect in gallium arsenide. IVUZ Fiz, no. 12, 1980, 36-41.

146. Bozhevol'nyy, S.I., Ye.M. Zolotov, and Ye.A. Shcherbakov (1). Interference modulator based on an $LiNbO_3$ channeled waveguide. KE, no. 11, 1980, 2500-2502.

147. Cuchy, Z., and I. Solc (NS). Quartz plate with a precision phase delay. Author's certificate Czechoslovakia, no. 183026, 15 May 1980. (RZhRadiot, 12/80, 12Ye309)

148. Glebov, D.M. (110). Method for increasing the linearity of optical modulators. Tr 4, 125-128. (RZhRadiot, 12/80, 12Ye106)

149. Khomenko, A.V., M.G. Shlyagin, and V.I. Marakhonov (0). Using dynamic effects in a PRIZ modulator for image processing. Sb 5, 243-247.

150. Knyaz'kov, A.V., M.M. Butusov, A.V. Ivanov, A.E. Krumin', and A.R. Shternberg (0). Using an oblique electrooptic effect in PLZT ceramic to develop controlled transparencies. Sb 5, 261-264.

151. Knyaz'kov, A.V., A.S. Saykin, E.N. Ryzhikov, L.F. Bazarova, and V.M. Fedulov (0). Study on the depolarization of coherent light in electrooptic PLZT ceramic. Sb 5, 332-336.

152. Kukleva, Z.A., V.T. Kozhukhova, and B.I. Lodygin (7). Study on a defective layer near the surface of KDP and DKDP E-O crystals. OMP, no. 11, 1980, 16-18.

153. Kuzovkova, T.A. (119). Study on electrooptic Q-switches used for controlling the lasing duration of solid-state lasers. Moskovskiy institut elektronnoy tekhniki. Dissertation, 1980, 22 p. (KLDV, 12/80, 17889)

154. Larinskiy, A.Ya., and Ye.A. Dayev (0). Matrix phase modulator of light. Sb 6, 59-66. (RZhRadiot, 12/80, 12Ye105)

155. Levyy, S.V., and Ye.K. Shmarev (106). Coherent optical correlator. Otkr izobr, no. 41, 1980, 777660.

156. Loginov, A.P. (5). Correlation method for conversion of fields of gas lasers with a complex transverse mode structure. Institut fiziki AN UkrSSR. Dissertation, 1980, 16 p. (KLDV, 11/80, 15886)

157. Nenchev, M.N. (NS). Method and device for controlling the lasing frequency of a laser medium with a nonuniformly broadened spectrum. Author's certificate Bulgaria, no. 27039, 27 Aug 1979. (RZhRadiot, 11/80, 11Ye328)

158. Pak, S.K., V.N. Parygin, A.I. Portnyagin, and S.K. Sobolev (2). Polarization eigenstates in an optical resonator with a steadily rotating phase plate. KE, no. 11, 1980, 2337-2343.

159. Peterimov, S.V. (O). Device for controlling a liquid-crystal light modulator. Author's certificate USSR, no. 748327, 15 July 1980. (RZhRadiot, 12/80, 12Ye108)

160. Petrov, M.P. (O). Information processing by light modulators using electrooptic crystals. Sb 5, 223-237.

161. Shternberg, A.R., and A.E. Krumin' (O). Transparent ferroceramic and prospects for using it in optical information processing devices. Sb 5, 303-307.

162. Shvarts, K.K. (O). Photorefraction and the problem of developing controlled spatial light modulators. Sb 5, 265-274.

163. Staupendahl, G., and K. Schindler (NS). Device for shortening of laser pulses. Patent GDR, no. 140948, 2 April 1980. (RZhRadiot, 12/80, 12Ye308)

164. Suynov, S.S. (NS). Amplitude modulator for high-power laser radiation. Author's certificate Bulgaria, no. 18354, 20 Oct 1979. (RZhRadiot, 12/80, 12Ye104)

165. Tsvetkov, V.V., V.B. Fedorov, V.A. Tsvetkov, and M.N. Fedorova (209). Study on liquid crystal polarization plane selectors using the twist effect with two-frequency control. KE, no. 11, 1980, 2306-2312.

10. Miscellaneous Components

166. Artyushenko, V.G., and Ye.M. Dianov (1). Effect of microimpurities on optical losses in alkali-halide crystals in the medium IR range. KSpF, no. 11, 1980, 7-12.

167. Savateyev, A.M. (0). A broad range of lasers on the export list. MashPriborIntorg [Soviet export promotional journal in English], no. 49(1), Moskva, 1981, 12-14.

F. NONLINEAR OPTICS

1. Frequency Conversion

168. Bakhramov, S.A., I.G. Kirin, and P.K. Khabibullayev (0). Four-photon parametric superluminescence in sodium vapor. DAN Uz, no. 6, 1980, 27-29. (RZhF, 12/80, 12D931)

169. Dotsenko, A.V., L.S. Korniyenko, N.V. Kravtsov, Ye.G. Lariontsev, and A.N. Shelayev (98). Attenuation of opposed wave competition during harmonic generation in a solid state ring laser. DAN SSSR, v. 255, no. 2, 1980, 339-341.

170. Komarov, S.A., V.V. Krasnikov, and V.S. Solomatin (2). Frequency tunable IR radiation in alkali metal vapors. KE, no. 11, 1-80, 2485-2487.

171. Manakov, N.L., and V.D. Ovsyannikov (137). Higher order nonlinear susceptibilities for generation of optical harmonics in atomic gases. ZhETF, v. 79, no. 5, 1980, 1769-1778.

172. Matveyev, I.N., S.M. Pshenichnikov, and A.F. Umnov (0). Study on the statistical characteristics of spontaneous noise in parametric frequency converters. KE, no. 11, 1980, 2480-2482.

173. Volosov, V.D., and A.G. Kalintsev (0). Spectral angular distribution of a second optical harmonic during nonmonochromatic divergent pumping. OiS, v. 49, no. 5, 1980, 1076-1080.

174. Voronov, V.V., Yu.S. Kuz'minov, V.V. Osiko, and A.M. Prokhorov (1). Photoelectric and photorefractive properties of barium and sodium niobate ferroelectrics. Kristal, no. 6, 1980, 1208-1215.

175. Yerokhin, N.S., S.S. Moiseyev, and A.P. Shuklin (34). Characteristics of generating the second harmonic of an e-m wave in an inhomogeneous magnetoactive plasma. ZhETF, v. 79, no. 6, 1980, 2152-2166.

2. Parametric Processes

3. Stimulated Scattering

a. Raman

176. Bayramov, B.Kh., V.N. Bessolov, E. Yane, Yu.P. Yakovlev, V.V. Toporov, and Sh.B. Ubaydullayev (4). Raman scattering in $Al_{1-x}Ga_xP$ solid solutions. ZhTF P, no. 23, 1980, 1432-1436.

177. Grasyuk, A.Z., Yu.I. Karev, L.L. Losev, and V.G. Smirnov (1). Hydrogen Raman oscillator based on rotational transitions with longitudinal off-axis pumping by Nd laser radiation. KE, no. 12, 1980, 2637-2639.

178. Khamdamov, V.G., V.I. Vettegren', and I.I. Novak (4). Comparison of phonon anharmonism at the surface and inside cubic ZnSe using Raman scattering. FTT, no. 11, 1980, 3242-3246.

179. Khasanov, O.Kh. (507). Stimulated Raman scattering in resonant nonequilibrium media. KE, no. 12, 1980, 2552-2558.

180. Sokolovskaya, A.I. (0). Recording, optical wavefront reconstruction (reversal), self-focusing: new effects from stimulated Raman scattering. Sb 7, 39-55.

181. Strel'tsov, V.N. (1). Raman emission in an external resonator with nonlinear absorption at the Stokes frequency. KE, no. 12, 1980, 2517-2522.

182. Znamenskiy, N.V., V.A. Mikhaylov, and V.I. Odintsov (0). Spectral characteristics of stimulated Raman scattering in rubidium vapors pumped near $5^2S_{1/2} - 5^2P_{1/2,3/2}$ transitions. OiS, v. 49, no. 6, 1980, 1131-1135.

b. Brillouin

183. Gorbunov, L.M., and P. Saykia (1). Angular characteristics of the stimulated Brillouin scattering spectrum from a dispersing laser plasma. KSpF, no. 12, 1980, 14-20.

184. Shipilov, K.F., and T.A. Shmaonov (1). Short pulse generation during self-mode-locking within the range of the Brillouin scattering line. KSpF, no. 6, 1980, 42-44. (RZhF, 12/80, 12D1103)

185. Yeroshenko, V.A., Yu.F. Kir'yanov, S.B. Kormer, G.G. Kochemasov, and V.D. Nikolayev (0). Numerical study on the feasibility of using stimulated Brillouin scattering in laser thermonuclear fusion devices. KE, no. 12, 1980, 2536-2542.

c. Miscellaneous Scattering

186. Basov, N.G., V.S. Zuyev, O.Yu. Nosach, and Ye.P. Orlov (1). Stimulated scattering of light in a thermodynamic nonequilibrium with collective motion excited by photoinduced chemical reactions. KE, no. 12, 1980, 2614-2620.

187. Bazylev, V.A., and N.K. Zhevago (0). Scattering of photons by channeled particles. PSS, v. B97, no. 1, 1980, 63-64. (RZhF, 11/80, 11D910)

188. Belousov, V.N., L.A. Bol'shov, N.G. Koval'skiy, and Yu.K. Niziyenko (23). Experimental study on wavefront reversal during stimulated thermal and Brillouin scattering in liquids. ZhETF, v. 79, no. 6, 1980, 2119-2125.

189. Bespalov, V.I., A.A. Betin, S.N. Kulagina, G.A. Pasmanik, and A.A. Shilov (426). Wavefront reversal of radiation with spatially inhomogeneous polarization during four-wave Raman interaction. ZhTF P, no. 21, 1980, 1288-1292.

190. Kolesov, V.L., I.Ye. Nakhutin, P.P. Poluektov, and Yu.G. Rubezhnyy (0). Scattering of e-m radiation by thin fibers. ZhPS, v. 33, no. 5, 1980, 919-924.

191. Mageramov, A.B., and A.F. Rykhlov (4). Scattering of light by uniformly irradiated samples of indium selenide films. ZhNiPFiK, no. 6, 1980, 449-451.

192. Voronov, V.V., I.R. Dorosh, Yu.S. Kuz'minov, and N.V. Tkachenko (1). Photoinduced optical scattering in Ce^{+} barium strontium niobate crystals. KE, no. 11, 1980, 2313-2318.

4. Self-focusing

193. Bakos, J.S., I.B. Foldes, and Zs. Sorlei (NS). High intensity narrow light pulse produced by self-focusing in a laser spark. Kozponti fizikai kutato intezet, no. 39, 1980, 23 p. (RZhF, 12/80, 12D1064)

194. Papanek, J., and A. Strba (NS). Temperature dependence of transient self-focusing in the isotropic phase of an MBBA crystal. Acta physica slovenia, no. 3, 1980, 219-232. (RZhF, 12/80, 12D888)

195. Zel'dovich, B.Ya., and N.V. Tabiryan (1). Self-focusing of light in nematic liquid crystals as a method of studying the directional effect of a free surface. ZhETF, v. 79, no. 6, 1980, 2388-2397.

5. Acoustic Interaction

196. Bondarenko, A.N., V.K. Vologdin, and A.I. Kondrat'yev (20). Effect of the thermal dependence of the coefficient of absorption on the shape of an acoustic pulse during laser excitation. Akusticheskiy zhurnal, no. 6, 1980, 828-832.

197. Bozhkov, A.I., F.V. Bunkin, Al.A. Kolomenskiy, M.L. Lyamshev, A.I. Malyarovskiy, V.G. Mikhalevich, and A.M. Rodin (1). Observing transient thermooptic sound emission. ZhTF P, no. 21, 1980, 1313-1316.

198. Saranin, V.A. (0). Propagation of sound waves in liquids under an external electric field. EOM, no. 6, 1980, 47-49.

199. Shandarov, V.M., and S.M. Shandarov (251). Wide band acoustooptic interaction in $LiNbO_3$:Ti diffusion waveguides. ZhTF P, no. 22, 1980, 1353-1355.

200. Sudeychenko, V. (0). From laser to hyperphaser. Tekhnika molodezhi, no. 12, 1980, 10-11.

6. General Theory

201. Andreyev, N.F., V.I. Bespalov, A.M. Kiselev, A.Z. Matveyev, G.A. Pasmanik, and A.A. Shilov (0). Wavefront reversal of weak optical signals with a high coefficient of reflection. ZhETF P, v. 32, no. 11, 1980, 639-642.

202. Arakelyan, S.M., S.R. Galstyan, O.V. Garibyan, A.S. Karayan, and Yu.S. Chilingaryan (37). Strong nonlinear activity in the nematic phase of a liquid crystal. ZhETF P, v. 32, no. 9, 1980, 561-565.

203. Baklanov, Ye.V., Ye.A. Titov, and V.A. Ulybin (159). Line profile of two-photon absorption by trapped ions. KE, no. 11, 1980, 2400-2404.

204. Blashchuk, V.N., B.Ya. Zel'dovich, and V.V. Shkunov (17). Four-wave wavefront reversal in a coded reference wave field. KE, no. 12, 1980, 2559-2567.

205. Bonch-Bruyevich, A.M., S.G. Prizhibel'skiy, and V.V. Khromov (0). Nonlinear optical effects in a system of colliding atoms. ZhPS, v. 33, no. 6, 1980, 980-1003.

206. Chernobrod, B.M. (75). Problems in the theory of cooperative Raman scattering. Institut avtomatiki i elektrometrii SOAN. Dissertation, 1980, 10 p. (KLDV, 11/80, 15761)

207. Chesnokov, S.S. (2). Fast Fourier transform in problems of thermal blooming. VMU, no. 6, 1980, 27-31.

208. Drabovich, K.N., and L.M. Kocharyan (2). Evolution of short pulses in two-photon absorbing media as a function of frequency and initial energy. KE, no. 11, 1980, 2380-2384.

209. Ivakin, Ye.V., A.M. Lazaruk, A.S. Rubanov, and B.I. Stepanov (0). Formation mechanism for conjugate waves in nonlinear optical processes. ZhPS, v. 33, no. 5, 1980, 836-841.

210. Kuznetsov, V.M., V.S. Rubanov, and L.P. Svirina (3). Light-induced optical incompatibility. ZhTF P, no. 24, 1980, 1493-1496.

211. Lugovoy, V.N., and A.L. Dyshko (1). Double conical structure of a light beam in a nonlinear medium. KE, no. 11, 1980, 2393-2399.

212. Mareyen, M., and F.J. Schuette (NS). Stability of the coherent state and of the coherent two-photon state. Sb 8, 189-192. (RZhF, 12/80, 12D867)

213. Nestrizhenko, Yu.A., V.V. Maslov, and V.V. Pozhar (O). Propagation of orthogonally polarized beams through a Lummer-Gehrcke plate made from a birefringent optically active crystal. OiS, v. 49, no. 6, 1980, 1147-1150.

214. Polyanovskiy, V.M. (581). Multiphoton absorption of an e-m wave by a semiconductor with a super lattice structure. FTP, no. 12, 1980, 2380-2382.

215. Shtyrkov, Ye.I., N.L. Nevel'skaya, V.S. Lobkov, and N.G. Yarmukhametov (O). Transient light-induced spatial gratings by successive optical coherent pulses. PSS, v. B98, no. 2, 1980, 473-485.

G. SPECTROSCOPY OF LASER MATERIALS

216. Arbuzov, V.I. (O). Measuring the absolute quantum yield for resonant luminescence of Yb^{3+} in glass by modulation technology. ZhPS, v. 33, no. 6, 1980, 1030-1035.

217. Arsent'yev, I.N., D. Akhmedov, S.G. Konnikov, V.A. Mishurnyy, and V.Ye. Umanskiy (4). Effect of disparity between the lattice constants and coefficients of thermal expansion on luminescent properties of $Ga_xIn_{1-x}P$-GaAs heterostructures. FTP, no. 12, 1980, 2343-2348.

218. Kononchuk, G.L., N.A. Anisimov, S.A. Boyko, A.V. Goloborod'ko, and L.V. Sokolovskaya (51). Two stages of phosphorescence and dyeing of ruby crystals during optical pumping. UFZh, no. 11, 1980, 1789-1796.

219. Konstantinov, N.Yu., L.G. Karaseva, and V.V. Gromov (67). Optical absorption spectra of hole centers in gamma-irradiated YAG crystals. DAN SSSR, v. 255, no. 3, 1980, 631-634.

220. Kurik, M.V., and A.Kh. Rozhko (5). Photo and ultrasound edge luminescence in cadmium selenide. FTP, no. 11, 1980, 2281-2283.

221. Kuznetsova, R.T., R.M. Fofonova, and V.I. Danilova (0). Fluorescence of various forms of xanthene dyes. ZhPS, v. 33, no. 5, 1980, 842-846.

222. Petrov, M.V., and A.M. Tkachuk (0). Delayed stimulated afterglow of holmium ions in crystals with coactivators. KE, no. 12, 1980, 2531-2535.

223. Reva, M.G., L.V. Levshin, and B.D. Ryzhikov (0). Nature of deformations in electron absorption spectra during association of heterogeneous dye molecules. ZhPS, v. 33, no. 5, 1980, 899-903.

224. Ryzhikov, B.D., L.V. Levshin, M.G. Reva, and S.I. Stal'makhovich (0). Cause of decrease in luminescent yield for rhodamine 6G during molecular dimerization. ZhPS, v. 33, no. 6, 1980, 1045-1048.

225. Shlapak, V.A., and A.V. Ignatov (240). Effect of IR radiation in the 3 - 3.75 μm range on the photoconductivity of CdS single crystals. UFZh, no. 11, 1980, 1905-1906.

H. ULTRASHORT PULSE GENERATION

226. Belke, S., D. Schubert, K. Vogler, and J.B. Wilhelmi (NS). Stable ultrashort pulse generation by an Nd glass laser. ETP, no. 3, 1980, 227-231. (RZhRadiot, 12/80, 12Ye77)

227. Kryukov, P.G., Yu.A. Matveyets, and V.A. Semchishen (72). Producing subpicosecond gigawatt laser pulses for kinetic spectroscopy. KE, no. 11, 1980, 2437-2442.

228. Pavlov, L.Y., K.V. Stamenov, and I.V. Tomov (NS). Method for obtaining individual picosecond light pulses. Patent Bulgaria, no. 22737, 15 Sep 1979. (RZhRadiot, 11/80, 11Ye186)

229. Varanavichyus, A.V., R. Grigonis, A. Piskarskas, A. Stabinis, and A. Yankauskas (49). Generating picosecond light pulses with high spectral Q-factors using wavefront reversal. ZhTF P, no. 23, 1980, 1447-1450.

J. CRYSTAL GROWING

K. THEORETICAL ASPECTS OF ADVANCED LASERS

230. Akhmanov, S.A., B.A. Grishanin, G.A. Lyakhov, and Yu.V. Ponomarev (2). Coherent properties of x-ray sources and coherent effects in x-ray optics. Part 1. Spatial coherence of synchrotron radiation. VMU, no. 6, 1980, 31-38.

231. Akhmanov, S.A., B.A. Grishanin, G.A. Lyakhov, and Yu.V. Ponomarev (2). Coherent properties of x-ray sources and coherent effects in x-ray optics. Part 2. Dynamic scattering of partially coherent x-ray radiation in crystals. VMU, no. 6, 1980, 38-44.

232. Kamenov, P.S., and B.V. Tsvetan (NS). Method for developing a gamma laser. Author's certificate Bulgaria, no. 22736, 15 Sep 1979. (RZhRadiot, 11/80, 11Ye181)

233. Zaretskiy, D.F., V.V. Lomonosov, and E.A. Nersesov (16). Stimulated emission from particles propagating across the boundary between two media. KE, no. 11, 1980, 2367-2370.

L. GENERAL LASER THEORY

234. Dumitras, D.C., and V. Draganescu (NS). IR laser systems at 16 μm. SCF, no. 3, 1980, 219-256. (RZhF, 11/80, 11D871)

235. Idiatulin, V.S. (140). Theory of light generation by active media with inhomogeneous amplification. VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy. Dissertation, 1980, 19 p. (KLDV, 12/80, 17410)

236. Milovskiy, N.D., and L.L. Popova (0). Theory on evaluating the power of radiation from a linear [non-ring] laser with a coupled resonator. Deposit at VINITI, no. 4380-80, 1980. (Cited in IVUZ Radiofiz, no. 11, 1980, 1350)

237. Parkhomenko, M.V. (0). Effect of a spread of parameters in a comb-like decelerating system on the dispersion characteristics of a laser paramagnetic traveling-wave amplifier. Deposit at VINITI, no. 3645-80, 14 Aug 1980, 10 p. (RZhRadiot, 12/80, 12Ye66)

238. Zakharov, V.Ye. (73). Propagation of an amplifying pulse in a two-level medium. ZhETF P, v. 32, no. 10, 1980, 603-607.

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

239. Gapagov, F.M. (576). Using laser beams to treat acute suppurative illnesses of the soft tissues. Clinical-experimental studies. Pervyy Moskovskiy meditsinskiy institut. Dissertation, 1979, 15 p. (KLDV, 11/80, 16633)

240. Kibovskiy, V.T., V.I. Kukhtevich, and L.A. Novitskiy (141). Evaluating the degree of danger to the human eye posed by directed laser beams. KE, no. 12, 1980, 2523-2530.

241. Martynov, A.Yu. (577). Comparative evaluation of the effectiveness of partial resection of the liver, cryogenic destruction and laser coagulation of the part of the surface to stimulate regenerative processes in cirrhosis. Omskiy gos meditsinskiy institut. Dissertation, 1979, 19 p. (KLDV, 11/80, 16692)

242. Moroz, A.M. (114). Effect of He-Ne laser radiation on glycolysis and ATPase activity. L'vovskiy GU. Dissertation, 1980, 34 p. (KLDV, 11/80, 16111)

243. Pletnev, S.D., M.Sh. Abdurazakov, V.P. Belyayev, Yu.A. Felyanin, and V.F. Martynov (314). Method of treating malignant surface tumors. Otkr izobr, no. 40, 1980, 629932.

B. COMMUNICATIONS SYSTEMS

244. Ablekov, V.K., Yu.P. Syrykh, A.V. Frolov, and S.A. Kolyadin (0). Optical signal lattice structure. DAN SSSR, v. 255, no. 5, 1980, 1093-1094.

245. Aksler, O., A. Baczewski, and A. Pilawski (NS). Transmitters and receivers in a laser communications link. Wiadomosci telekomunikacyjne, no. 5, 1980, 139-141. (RZhRadiot, 11/80, 11Ye304)

246. Anikin, V.I., A.P. Gorobets, S.S. Olevskiy, and A.N. Polovinkin (14). Effect of intermediate layers on dispersion characteristics of optical film waveguides produced by a reactive cathode sputtering technique. KE, no. 12, 1980, 2631-2634.

247. Belanov, A.S., M.M. Bubnov, A.B. Grudinin, and Ye.M. Dianov (1). Selecting parameters of a single-mode lightguide to produce minimum dispersion at 1.55 μm. KE, no. 12, 1980, 2656-2658.

248. Borovkov, O.V., and I.Ya. Kucherov (51). Controlling the parameters of laser radiation in a diffusion waveguide using normal elastic waves in the substrate. ZhTF P, no. 24, 1980, 1516-1519.

249. Bykovskiy, Yu.A., V.L. Smirnov, and V.N. Sorokovikov (16). Effect of variation in waveguide thickness on the efficiency of Bragg diffraction by lattice structures. KE, no. 11, 1980, 2362-2366.

250. Grankin, I.M., A.P. Zapunnyy, V.P. Pogrebnyak, and V.K. Khaustov (106). Optical communications channel. Sb 4, 128-132. (RZhRadiot, 12/80, 12Ye282)

251. Krivopustov, A.I., I.N. Mikhaylenko, A.S. Nasibov, V.T. Pivovarov, V.I. Reshetov, and V.A. Sergeyev (1). Digitally controlled laser CRT. PTE, no. 6, 1980, 218.

252. Mueller, R., and E. Neef (NS). Amplifying device for light pulses in lightguides. Patent GDR, no. 141227, 16 April 1980. (RZhRadiot, 11/80, 11Ye289)

253. Sementsov, D.I. (0). Theory of optical waveguide metal-oxide-dielectrics in a band domain structure. Mikroelektronika, no. 5, 1980, 473-476. (RZhRadiot, 12/80, 12Ye182)

254. Spevak, I.S (107). Thermal lens in a viscoelastic plate. UFZh, no. 11, 1980, 1867-1871.

C. BEAM PROPAGATION

1. In the Atmosphere

255. Abramovskiy, A.P., V.A. Donchenko, Yu.V. Lilenko, N.N. Latyshev, and N.P. Soldatkin (0). Measuring the backscatter of high-power optical radiation. Sb 9, 201-204.

256. Akhmanov, S.A., M.A. Vorontsov, V.P. Kandidov, and S.A. Chesnokov (0). Phase compensation of thermal self-action of light beams. Sb 9, 124-131.

257. Akhmanov, S.A., A.I. Kovrigin, A.V. Migulin, and V.S. Solomatin (0). IR lidar based on a high-power optical parametric oscillator and a detector with frequency upconversion. Sb 9, 143-150.

258. Balandin, S.F., Yu.D. Kopytin, V.V. Platinin, A.A. Solov'yev, and V.V. Tikhomirov (0). Study on the physical-chemical processes which occur while modeling the interaction of laser radiation with an aerosol. Sb 9, 57-79.

259. Baldanov, Zh.P., and N.Ts. Gomboyev (484). Determining the structural characteristics of the refractive index of air by the blurring of the image of parallel ground targets. Sb 10, 98-105.

260. Belen'kiy, M.S., V.M. Buldakov, and V.L. Mironov (78). Spectrum of the spatial coherence function for a laser beam field in a turbulent atmosphere. IVUZ Radiofiz, no. 11, 1980, 1282-1287.

261. Belyayev, Ye.B., A.P. Godlevskiy, V.Ye. Zuyev, and Yu.D. Kopytin (0). Remote laser spectrochemical analysis of aerosols. Sb 9, 3-56.

262. Boronoyev, V.V., N.Ts. Gomboyev, V.N. Poplaukhin, and E.A. Trubacheyev (484). Measuring the dispersion of intensity fluctuations in a partially coherent laser beam. Sb 10, 92-97.

263. Boronoyev, V.V., E.V. Zubritskiy, and V.N. Poplaukhin (484). Device for measuring the one-dimensional spectrum of the coherence function of an optical wave field and the C_n^2 turbulence parameter. Sb 10, 106-111.

264. Buldakov, M.A., Yu.D. Kopytin, S.V. Lazarev, and I.I. Matrosov (0). Luminescence analysis of aerosol matter in a marine atmosphere, using a high-power UV laser. Sb 9, 211-219.

265. Buzdin, A.A., and S.B. Leble (0). Solution to a lidar probing problem in an approximation of double probing. Deposit at VINITI, no. 2536-80, 20 June 1980, 15 p. (RZhF, 11/80, 11D836)

266. Dmitrotsa, I.I. (0). Geometric method for controlling and estimating the quality of results in laser ranging of satellites. Sb 11, 160-168.

267. Dyubko, S.F., M.N. Yefimenko, and M.V. Moskiyenko (0). Radiospectroscope in the submillimeter range. Sb 12, 150-166.

268. Fischer, H. (NS). Device for laser ranging of satellites. Radio-fernsehen-Electronik, no. 8, 1980, 519-521. (RZhRadiot, 12/80, 12Ye380)

269. Gavrish, T.V. (0). Quasioptimal filtering of trapezoidal signals with a varying duration of fronts. IVUZ Radioelektr, no. 8, 1980, 85-86. (RZhRadiot, 12/80, 12Ye379)

270. Gusarov, V.P., O.K. Kostko, A.P. Prokhorov, and N.D. Smirnov (0). Measuring atmospheric ozone by a UV lidar. Sb 13, 222-224. (RZhGeofiz, 11/80, 11B121)

271. Khmel'nitskiy, G.S. (78). Measuring gas concentrations in a homogeneous atmosphere by the absorption of CO_2 laser radiation. FAiO, no. 12, 1980, 1303-1306.

272. Klenitskiy, B.M., and V.I. Krylov (583). Weighting of various measurements in satellite triangulation. Sb 14, 3-7.

273. Kokurin, Yu.L., V.V. Kurbasov, V.F. Lobanov, A.N. Sukhanovskiy, and N.S. Chernykh (0). Experiment on laser ranging of the corner reflector mounted on Lunokhod-1. Chapter in book: Peredvizhnaya laboratoriya na Lune "Lunokhod-1" (The Lunokhod-1 mobile laboratory on the moon). Vol. 2, Moskva, Nauka, 1978, 170-180.

274. Kopytin, Yu.D., G.A. Mal'tseva, and S.A. Shishigin (0). Laser probing of the concentration of optically inactive nuclei, size spectra and asphericity of aerosol particles by nonlinear optics. Sb 9, 185-200.

275. Kostko, O.K., and N.D. Smirnov (0). Lidar ozonometer. Sb 13, 199-204. (RZhGeofiz, 11/80, 11B120)

276. Krekov, G.M., and M.M. Krekova (0). Evaluating the parameters of the cleared zone of an optical channel. Sb 9, 80-98.

277. Lukin, V.P. (0). Using radar signals to correct nonlinear distortions of optical beams. Sb 9, 132-142.

278. Mal'tseva, G.A. (0). Measuring the absolute intensity of a high-power laser beam by the dynamics of the scattered radiation. Sb 9, 98-102.

279. Marichev, V.N. (0). High-altitude probe of water vapor in the atmosphere by a high-power tunable ruby laser. Sb 9, 150-174.

280. Milyutin, Ye.R., and Yu.I. Yaremenko (0). Distribution of intensity fluctuations for optical radiation propagating through a turbulent atmosphere. RiE, no. 11, 1980, 2273-2278.

281. Nenchev, M.N. (NS). Laser with radiation in a narrow spectral section near a fixed frequency. Author's certificate Bulgaria, no. 26929, 25 July 1979. (RZhGeofiz, 11/80, 11B87)

282. Nenchev, M.N. (NS). Method and device for controlling the radiation frequency of a laser with a broad radiation spectrum. Author's certificate Bulgaria, no. 27039, 27 Aug 1979. (RZhGeofiz, 11/80, 11B86)

283. Pogodayev, V.A., and A.Ye. Rozhdestvenskiy (0). Effect of absorptive water particles on the initiation of optical breakdown of air by ruby laser radiation. Sb 15, 174-176. (RZhRadiot, 12/80, 12Ye357)

284. Sizova, I.M., and A.P. Sukhorukov (0). Nonlinear effects in laser probing of small components in a humid atmosphere. Sb 9, 174-184.

285. Tatevyan, S.K. (583). Possibility of using the "short arc" method to determine the chord length between two stations. Sb 14, 8-12.

286. Tsikin, Yu.A. (110). Calculating the energy of an optical signal reflected from the atmosphere. Tr 4, 122-125. (RZhRadiot, 12/80, 12Ye321)

287. Vanin, N.V., V.B. Glasko, I.S. Zhiguleva, and V.U. Khattatov (0). Reconstructing the vertical profile of ozone in the atmosphere by the measured optical thickness, using a regularization method. Sb 13, 270-272. (RZhGeofiz, 11/80, 11B122)

288. Volkovitskiy, O.A., S.V. Zakharchenko, L.P. Semenov, G.A. Sintyurin, A.M. Skripkin, and V.V. Smirnov (0). Triggering of a long laser spark in an aerodisperse system. Sb 15, 164-166. (RZhRadiot, 12/80, 12Ye358)

289. Volkovitskiy, O.A., Yu.S. Sedunov, and L.P. Semenov (0). Propagation of intense laser radiation. Sb 9, 117-123.

290. Yeliseyev, A.A., O.V. Ravodina, and V.A. Filimonova (0). Liquid filter for increasing the signal/noise ratio in Raman spectra and fluorescence. Sb 9, 204-210.

291. Zakharchenko, S.V., and S.M. Kolomiyets (220). Refractometer. Author's certificate USSR, no. 645434, 30 Jan 1980. (RZhGeofiz, 11/80, 11B84)

292. Zarin'sh, A.Ya. (583). Noise stabilizing method for filtering laser observations of artificial earth satellites. Sb 14, 40-43.

293. Zarin'sh, A.Ya. (583). Polynomial approximation of laser observations of artificial earth satellites. Sb 14, 44-46.

294. Zemlyanov, A.A. (0). Propagating a narrow probing beam in a channel of high-power optical radiation action. Sb 9, 102-110.

295. Zemlyanov, A.A., and A.V. Kuzikovskiy (0). Calculating the attenuation coefficient of fog droplets as they explode during evaporation in the field of a high-power probing pulse. Sb 9, 111-116.

296. Zhagar, Yu.Kh. (109). Approximation and accuracy of laser observations of satellites. Sb 11, 150-159.

297. Zhagar, Yu.Kh. (583). Automatic control of "time gates" for a satellite-ranging lidar. Sb 14, 61-64.

298. Zuyev, V.Ye., and R.Sh. Tsyk (0). Second Conference on Atmospheric Optics, Tomsk, 23-25 June 1980. IVUZ Radiofiz, no. 11, 1980, 1391-1392.

2. In Liquids

299. Demidov, A.A., and V.V. Fadeyev (2). Feasibility of obtaining a vertical distribution of impurities in water using laser probing. DAN SSSR, v. 255, no. 4, 1980, 850-853.

3. Theory

300. Badziak, J. (NS). Time and space compression functions in a two-dimensional description of laser pulse propagation in a nonlinear medium. Opt app, no. 2, 1980, pp not given. (RZhF, 11/80, 11D873)

301. Bol'shov, L.A., and T.K. Kirichenko (23). Numerical analysis of a small-scale instability in the pulse rise for bleaching a resonant absorber. KE, no. 12, 1980, 2621-2626.

302. Bratchikov, A.N., and A.Yu. Grinev (116). Transforming the field distribution with a multimode planar waveguide. IVUZ Radiofiz, no. 11, 1980, 1322-1329.

303. Krutikov, V.A. (78). Evaluating the statistical characteristics of optical radiation in a medium with large scale discrete inhomogeneities. IVUZ Radiofiz, no. 12, 1980, 1434-1446.

304. Mironov, V.L., and S.I. Tuzova (78). Fluctuations of laser radiation intensity in a medium with large scale discrete inhomogeneities. IVUZ Radiofiz, no. 12, 1980, 1453-1463.

305. Perov, V.S. (0). Propagation of a light pulse in a straight lightguide with a constant and varying cross-section. OiS, v. 49, no. 6, 1980, 1172-1176.

306. Shpak, I.V., V.Ye. Privalov, A.V. Solomin, and A.V. Mironov (51,163). Propagation of an e-m field in inertialess moving optically active media. ZhETF, v. 79, no. 6, 1980, 2057-2062.

307. Shulmanis, A.A. (0). Reflection of a plane electromagnetic wave from a plasma layer. Sb 16, 180. (RZhRadiot, 11/80, 11Ye356)

308. Zhizhin, G.N., M.A. Moskaleva, Ye.V. Shomina, and V.A. Yakovlev (0). Study on optimum conditions for prismatic conversion of IR surface e-m waves. OiS, v. 49, no. 6, 1980, 1086-1093.

D. COMPUTER TECHNOLOGY

309. Akayev, A. (0). Prospects for using holographic memories in a computer memory hierarchy. Sb 5, 51-61.

310. Akayev, A., and A. Sytsykov (0). Solving problems of mathematical physics by optical spatial filtering. Sb 5, 105-108.

311. Auslender, A.L., G.N. Vishnyakov, and G.G. Levin (0). Solution of various inverse problems of mathematical physics in optoelectronic processors. Sb 5, 97-104.

312. Beklemishev, A.B. (0). Some problems in designing liquid-crystal matrix screens. Sb 17, 36-44.

313. Brodzeli, M.I., A.M. Gilel's, I.A. Yeligulashvili, and T.N. Makharadze (39). Feasibility of recording information based on chloranyl conversion under UV irradiation. KhVE, no. 6, 1980, 522-524.

314. Bugrov, V.Ya., A.S. Ignat'yev, V.V. Kapayev, V.G. Mokerov, and A.G. Petrova (0). Reversible information storage based on vanadium dioxide films. Avtometriya, no. 6, 1980, 96-100.

315. Bychkov, R.M., Ye.S. Nezhevenko, and O.I. Potaturkin (0). Using optical methods for image recognition in control and measuring technology. Sb 5, 80-84.

316. Bykovskiy, Yu.A., A.I. Larkin, A.A. Markilov, and S.N. Starikov (0). Developing holographic filters for pattern recognition by stochastic approximation. Sb 5, 155-158.

317. Dutov, A.V. (0). Using semiconductor photodetectors to accelerate the input of optical information. Sb 17, 45-56.

318. Ekmanis, Yu.A., and Ya.A. Teteris (0). Kinetics of optical recording in chalcogenide glasses. Sb 5, 312-315.

319. El'man, R.I. (0). Digital methods for processing aerospace information and their comparison with optical methods. Sb 5, 22-31.

320. Galanov, A.N., V.P. Ivanchenkov, and G.I. Poskonnyy (0). Research and development of a device for dynamic input of seismic information into an optical computer of an optodigital complex. Sb 5, 395-400.

321. Gendovich, K.B. (0), and K.S. Stoyanova-Pushkarova (Bulgarian). Processing of seismic information by a coherent optical system. Sb 7, 156-163.

322. Gil'man, G.A., and G.G. Levin (0). Image restoration in an optical processor by the Van Cittert - Johnson method. Sb 5, 416-422.

323. Gnatovskiy, A.V., N.V. Medved', and M.T. Shpak (0). Using binary phase masks to correct the spatial-angular characteristics of coherent beams. Sb 5, 209-212.

324. Gofman, M.A., and Ye.S. Nezhevenko (0). Controlled transparencies in nonlinear image conversion. Sb 5, 252-256.

325. Golub, M.A., and V.A. Soyfer (465). Stability of the Karhunen-Loeve expansion and computer synthesis of optimal spatial filters. Sb 18, 108-134.

326. Ivanchenkov, V.P., and A.I. Kochegurov (0). Phase coding of seismic signals in optodigital information processing systems. Sb 17, 57-64.

327. Ivanchenkov, V.P., and O.G. Dolmatova (0). Mathematic modeling of the processes for recording seismic signals on a thermoplastic carrier during their input into an optical computer in an optodigital complex. Sb 17, 65-73.

328. Ivanchenkov, V.P., and P.V. Mineyev (0). Development of complex filters in polarized light. Sb 17, 167-173.

329. Ivanchenkov, V.P., and P.V. Mineyev (0). Principles for constructing an optodigital complex for processing seismic information. Sb 5, 390-394.

330. Karapetyan, V.V., K.A. Yegiyan, R.G. Martirosyan, E.P. Sagatelyan, R.A. Kadzhoyan, and V.S. Minayev (389). Study on the characteristics of holographic recording of information on chalcogenide glassy GeAsSe system semiconductor films. IAN Arm, no. 3, 1980, 215-220.

331. Karnaukhov, V.N., A.N. Korolev, and Yu.V. Stolyarov (0). Digital processing and coherent optical processing of photoimages by computer-synthesized filters. Sb 5, 109-112.

332. Khomenko, A.V., V.I. Marakhonov, and M.G. Shlyagin (0). Fourier image analysis using a PRIZ modulator. Sb 5, 238-242.

333. Kolpakov, G.B., O.P. Spiridonov, V.F. Trukhin, A.L. Khaman, V.A. Tsvetkov, and G.D. Yakovlev (0). PROM transparency for digital information processing systems. Sb 5, 257-260.

334. Kompanets, I.N., A.V. Parfenov, and Yu.M. Popov (0). Space-time modulators with photoelectric feedback. Sb 5, 248-251.

335. Konstantinov, V.B., and D.F. Chernykh (0). Possibility of optical modeling of spatially inhomogeneous media. Sb 17, 74-83.

336. Krasnova, L.O., A.I. Larkin, and Yu.A. Mironov (0). Study on the characteristics of a Lohmann correlator. Sb 5, 70-73.

337. Krupitskiy, [illegible].I. (0). Fundamentals of a general theory of analog coherent optical processors. Part 2. Nonlinear systems. Sb 5, 3-21.

338. Kurashov, V.N., S.N. Marchenko, and Yu.V. Khoroshkov (0). Optical visualization of nonlinear and spatially invariant unidimensional transformations. OiS, v. 49, no. 5, 1980, 968-976.

339. Kuvshinov, A.M., O.A. Potapov, and R.G. Tazitdinov (0). Architecture of an optodigital computer complex with a general operative memory. Sb 17, 9-15.

340. Kuvshinov, A.M., V.V. Kiryukhin, A.I. Orlov, O.A. Potapov, and L.S. Ryazanov (0). Devices for information readout from an optical computer and their interfacing with computers. Sb 17, 16-31.

341. Lokshin, G.R., S.M. Kozel, and V.Ye. Belonuchkin (0). Linear filtration and square-law detection in coherent optical information processing systems. Sb 5, 118-120.

342. Lokshin, G.R. (0). Optical spatial filter with a given processing algorithm. Sb 5, 165-168.

343. Maslina, L.Ya., and L.P. Dunayeva (0). Processing of seismic signals with display of dynamic characteristics. Sb 17, 174-178.

344. Mikhlyayev, S.V., and Yu.V. Chuguy (0). Spectral method for tolerance control of object sizes. Sb 5, 141-145.

345. Nesrullayev, A.N., A.Z. Rabinovich, A.S. Sonin, and Ye.B. Shelemin (141). Thermooptic recording in chiral ferroelectric smectic C* phase liquid crystals. KE, no. 12, 1980, 2578-2581.

346. Nemtinov, V.B. (0). Optoholographic converting structures. Sb 5, 401-415.

347. Nesrullayev, A.N., A.Z. Rabinovich, and A.S. Sonin (141). Chiral smectic C* as a medium for thermooptic recording. ZhTF, no. 11, 1980, 2468-2469.

348. Nezhevenko, Ye.S., O.I. Potaturkin, and V.I. Khotskin (0). Image recognition and diffractional intensity correlators. Sb 5, 74-79.

349. Pilipishin, B.V. (0). Possibility of developing a closed cycle of holographic converters. Sb 17, 100-109.

350. Potapov, O.A. (0). Geophysical holography as a new direction in the study of geological objects. Sb 17, 4-8.

351. Potaturkin, O.I. (0). Diffractional intensity correlators. Sb 5, 62-69.

352. Rudakov, S.V., and F.M. Subbotin (0). Optical image subtraction. Sb 5, 113-117.

353. Shchukin, I.V. (0). Analyzing image structure by coherent optical methods. Sb 5, 121-125.

354. Smirnov, N.A. (30). Research and development on methods for using page holographic memories in computer systems. Leningradskiy institut tochnoy mekhaniki i optiki. Dissertation, 1980, 16 p. *(KLDV, 12/80, 17848)*

355. Soskin, S.I., and S.A. Shoydin (7). Study on a holographic memory during the recording of single holograms. OMP, no. 11, 1980, 3-8.

356. Soyfer, V.A., M.A. Golub, and A.G. Khramov (0). The possible and impossible in digital holography. Sb 7, 105-123.

357. Spektor, B.I. (0). Reflecting elements in optical information processing systems. Sb 5, 201-208.

358. Varga, P., Cs. Zakar, G. Kiss (Hungarians, Russ transliteration: Ch. Zakhar, G. Kish), I.N. Kompanets, Yu.M. Popov, P.N. Semochkin, and A.G. Sobolev (1). Recording binary signals in an external holographic memory using a controlled unidimensional transparency based on a PLZT ceramic. KE, no. 12, 1980, 2568-2572.

359. Verenikina, N.M., and O.V. Rozhkov (0). Operative Fourier filter complex. Sb 5, 159-164.

360. Vlasov, Ye.N., A.M. Kuvshinov, and O.A. Potapov (0). Constructing binary optical filters by Loman and Li methods and using them for filtering of seismic data. Sb 17, 84-90.

361. Vorob'yev, O.A., and A.D. Bezborod'ko (0). The "Morgol" marine seismoholographic system. Sb 17, 91-99.

362. Yakushenkov, Yu.G. (0). Energy (lighting engineering) design for optoelectronic systems for processing graphic information. Sb 17, 32-35.

363. Yaroslavskiy, L.P. (201). Discrete quantum Fourier transform. Sb 18, 41-44.

364. Yelkhov, V.A., A.I. Zolotarev, S.P. Kalashnikov, V.N. Morozov, Yu.M. Popov, and G.I. Semenov (0). Effect of the coherence of injection laser radiation on the quality of correlation processing of optical signals. Sb 5, 180-185.

365. Zyubrik, A.I., N.A. Komlev, and I.I. Chegil' (0). Evaluation of some destabilizing factors in a controlled transparency based on yttrium orthoferrite. KE, no. 12, 1980, 2629-2631.

E. HOLOGRAPHY

366. Agustov, P.A. (0). Photophysical processes of optical recording in lithium niobate and lithium tantalate. Sb 5, 308-311.

367. Andreyev, R.B., N.D. Vorzobova, A.G. Kalintsev, and D.I. Stasel'ko (0). Pulsed image holography with recording in the green region of the spectrum. OiS, v. 49, no. 5, 1980, 938-940.

368. Androsov, A.M., V.G. Budilov, and A.V. Lyamin (118). Depolarization of an optical wave by a diffuse surface and formation of a holographic image. Deposit at VINITI, no. 3310-80, 24 July 1980, 5 p. (RZhF, 11/80, 11D1125)

369. Baranova, N.B., B.Ya. Zel'dovich, V.V. Shkunov, and T.V. Yakovleva (0). Theory on the reconstruction of fields by volume holograms and spectral-angular distortions. Sb 7, 3-38.

370. Belabayev, K.G., V.P. Kondilenko, N.V. Kukhtarev, V.B. Markov, S.G. Odulov, and M.S. Soskin (5). Phase conversion and the intensities of light beams during recording of dynamic gratings in $LiNbO_3$:Fe crystals. ZhTF, no. 12, 1980, 2560-2566.

371. Bugayev, A.A. (4). Recording a three-dimensional image at a wavelength absent in the source spectrum. DAN SSSR, v. 255, no. 6, 1980, 1357-1359.

372. Buncek, I., J. Kaluzny, and M. Konecny (NS). Acoustic holography. CCF, v. A30, no. 3, 1980, 242-255. (RZhF, 11/80, 11Zh584)

373. Cherkasov, Yu.A., and V.S. Obraztsov (0). Molecular photothermoplastic recording media. Sb 5, 275-288.

374. Dinev, S.G. (NS). Device for pulsed color holography. Author's certificate Bulgaria, no. 22336, 5 Sep 1979. (RZhRadiot, 11/80, 11Ye468)

375. Dinev, S.G. (NS). Device for pulsed color holography. Author's certificate Bulgaria, no. 22038, 20 Nov 1979. (RZhRadiot, 11/80, 11Ye469)

376. Dukhovnyy, A.M., A.Ye. Korolev, R.V. Ryabova, and D.I. Stasel'ko (0). Study on the diffraction efficiency of holograms recorded in the IR with pulse durations of 2×10^{-10} - 15 seconds. OiS, v. 49, no. 5, 1980, 933-937.

377. Efendiyev, Sh.M., A.M. Mamedov, V.E. Bagiyev, and G.M. Eyvazova (86). Optical properties of bismuth silicate in the VUV range. FTT, no. 12, 1980, 3705-3707.

378. Greysukh, G.I. (0). Correcting third-order monochromatic aberration in a double lens diffraction objective. OiS, v. 49, no. 6, 1980, 1212-1215.

379. Ivakin, Ye.V., and A.I. Kitsak (0). Filtering properties of focused image holograms recorded in light with partial spatial coherence. Sb 5, 186-189.

380. Kamshilin, A.A., M.P. Petrov, and S.I. Stepanov (4). Method for recording and reading a series of holograms. Otkr izobr, no. 41, 1980, 683579.

381. Karapetyan, V.V., K.A. Yegiyan, R.G. Martirosyan, E.P. Sagatelyan, R.A. Kadzhoyan, and V.S. Minayev (0). Study on the characteristics of holographic information recording in chalcogenide glassy semiconductor films of the Ge-As-Se system. IAN Arm, no. 3, 1980, 215-220. (RZhF, 11/80, 11D1135)

382. Karinskiy, S.S., A.I. Zyubrik, R.G. Dokhikyan, V.N. Deyev, O.I. Zhovtanetskiy, V.M. Fit'o, and V.I. Barba (0). Possibility of using photothermoplastics in a device for recording Fourier spectra of radio signals. KE, no. 11, 1980, 2491-2492.

383. Klimin, A.N., M.N. Korotkevich, and O.V. Shmarina (0). Selective dissolution mechanism for arsenic sulfide films. Avtometriya, no. 6, 1980, 94-96.

384. Koloskov, A.V., Yu.S. Provornov, I.B. Sinkevich, and Ya.I. Depman (0). Device for observing holograms. Otkr izobr, no. 48, 1980, 10297.

385. Korolev, A.N. (0). Evaluating the effect of the amplitude and phase parts of a spatial filter on the quality of image reconstruction. OiS, v. 49, no. 5, 1980, 941-945.

386. Kozlov, V.M. (0). Structure and optical properties of amorphous arsenic chalcogenide films. Sb 5, 316-319.

387. Lokshin, G.R. (0). Principles of correlation filtering in holography. Sb 7, 93-104.

388. Malinovskiy, V.K., and B.I. Sturman (75). A description of the photogalvanic effect in low mobility crystals. FTT, no. 12, 1980, 3678-3683.

389. Nagli, L.Ye., and I.K. Plyavin' (63). Method for recording and reading holograms. Otkr izobr, no. 41, 1980, 683578.

390. Nemtinov, V.B. (0). Structure and quality of the holographic process. Sb 7, 65-85.

391. Odulov, S.G., Yu.A. Reznikov, O.G. Sarbey, M.S. Soskin, Ye.K. Frolova, and A.I. Khizhnyak (5). Dynamic holographic gratings in a mesophase nematic liquid crystal. UFZh, no. 11, 1980, 1922-1924.

392. Ozols, A.O. (0). Physics of holographic gratings. Sb 5, 289-302.

393. Predko, K.G., and V.G. Sinchenko (0). Information characteristics of Fresnel holograms while obtaining images through scattering media. Sb 7, 56-64.

394. Rusev, I.R. (231). Study on the recording parameters of motion picture holograms and development of methods for optimizing the quality of the reconstructed image. VNI kinofotoinstitut. Dissertation, 1979, 20 p. (KLDV, 11/80, 16375)

395. Rykhlov, A.F. (4). Effect of light coherence on the resolution of point objects. ZhNiPFiK, no. 6, 1980, 424-426.

396. Shepelevich, V.V. (162). Formation of holographic gratings in an optically active medium. DAN B, no. 11, 1980, 992-995.

397. Shtyrkov, Ye.I. (0). Dynamic echo holography. Sb 7, 188-203.

398. Turyanitsa, I.I., D.G. Semak, L.R. Khabibulina, A.I. Zyubrik, and Ye.F. Kirkach (136). Increasing the amplitude-phase contrast in layers of glassy chalcogenide semiconductors with supplementary chemical processing. ZhNiPFiK, no. 6, 1980, 440-444.

399. Valyus, N.A. (0). Beam holography. Sb 7, 231-234.

400. Vorob'yev, A.V., V.A. Yelkhov, I.I. Klimov, V.N. Morozov, G.T. Pak, Yu.M. Popov, R.P. Shidlovskiy, and I.V. Yashumov (1). Recording holograms by radiation from a semiconductor laser with a holographic selector. KE, no. 12, 1980, 2654-2656.

401. Zaporozhets, T.Ye., and S.G. Odulov (5). Wavefront reversal during the recording of dynamic holograms on the surface of a mercury mirror. ZhTF P, no. 22, 1980, 1391-1396.

402. Zyubrik, A.I. (0). Characteristic curves for As-Se films used as photorecording media. DAN Ukr, no. 11, 1980, 73-75.

403. Zyubrik, A.I., Yu.G. Vul'chin, O.R. Gavrilyuk, and S.L. Sokolenko (114). Digital device for automatic hologram exposure. PTE, no. 6, 1980, 207.

404. Zyuryukin, Yu.A. (0). Visualization of acoustic objects by collinear and Bragg diffraction of light by elastic waves in crystals. Sb 7, 168-175.

F. LASER-INDUCED CHEMICAL REACTIONS

405. Abakumov, G.A., Yu.Lademann, V.F. Pikel'ni, B.I. Polyakov, and A.P. Simonov (122). Determining the cross-sections for photoionization of complex electronically excited molecules in the gas phase. DAN SSSR, v. 255, no. 6, 1980, 1396-1399.

406. Alimov, A.D., N.B. Delone, M.A. Preobrazhenskiy, M.A. Tursunov, and P.K. Khabibullayev (0). Polarization effects during three-photon ionization of potassium atoms. ZhTF P, no. 21, 1980, 1303-1307.

407. Ambartsumyan, R.V. (72). Selective ionization of atoms and dissociation of molecules by laser radiation. Institut spektroskopii AN SSSR. Dissertation, 1979, 34 p. (KLDV, 12/80, 17360)

408. Andryushin, A.I., and A.Ye. Kazakov (1). Polarization of electrons during resonant two-photon ionization of unpolarized atoms. KE, no. 11, 1980, 2371-2379.

409. Angelov, D.A., D.N. Nikogosyan, and A.A. Orayevskiy (72). Two-photon photolysis of water and its role in two-stepped photodecomposition of aqueous solutions of DNA components. KE, no. 12, 1980, 2573-2577.

410. Bertsev, V.V., M.O. Bulanin, and A.P. Burtsev (0). IR stimulated reactions of ozone with NO in cryogenic systems. OiS, v. 49, no. 6, 1980, 1203-1205.

411. Beterov, I.M., Yu.V. Brzhazovskiy, A.A. Vostrikov, N.V. Gayskiy, and B.Ye. Semyachkin (159). Study on condensation of SF_6 in a free jet under laser irradiation. KE, no. 11, 1980, 2443-2453.

412. Bobyrev, V.A., F.V. Bunkin, N.A. Kirichenko, B.S. Luk'yanchuk, and A.V. Simakin (1). Stochastic heterogeneous thermochemical processes in a laser radiation field. ZhETF P, v. 32, no. 10, 1980, 608-611.

413. Bunkin, F.V., N.A. Kirichenko, and B.S. Luk'yanchuk (1). Feasibility of selectively controlling reactions in laser thermochemistry. KE, no. 12, 1980, 2659-2660.

414. Dorofeyev, V.S., and T.K. Aydarov (0). Possibilities for stepped resonant excitation resulting in photoionization of atoms in atomic absorption spectral analysis. ZhPS, v. 33, no. 6, 1980, 973-979.

415. Kazakov, S.A., and V.A. Kuz'menko (0). Dissociation mechanism in SiF_4 under pulsed CO_2 laser irradiation. ZhFKh, no. 12, 1980, 3090-3093.

416. Kazakov, S.A., and V.A. Kuz'menko (0). Effect of pulse shape and wavelength of CO_2 laser radiation on collisionless and thermal dissociation of SiF_4. ZhFKh, no. 12, 1980, 3094-3098.

417. Kolomiyskiy, Yu.R. (72). Multiphoton IR absorption by SF_6 in low-energy vibrational states. KE, no. 12, 1980, 2627-2629.

418. Landa, P.S., N.A. Miskinova, and Yu.V. Ponomarev (2). Ionization waves in a low temperature plasma. UFN, v. 132, no. 4, 1980, 601-637.

419. Nath, G. (NS). Nonstationary laminar laser-heated boundary layers at a three-dimensional stagnation point. Revue roumaine de science technique. Serie mechanique applique, no. 3, 1980, 359-369. (RZhMekh, 11/80, 11B148)

420. Punkevich, B.S. (0). Development of a hydrodynamic disturbance during the explosion of spherical explosive charges in air and argon of differing density. Sb 19, 127-139. (RZhMekh, 11/80, 11B197)

421. Strakovskiy, L.G., P.I. Ulyakov, and Ye. I. Frolov (0). The role of vaporization in the process of igniting explosive material. FGiV, no. 6, 1980, 59-64.

422. Zagoruyko, Yu.A., and B.L. Timan (0). Photoinduced diffusion of copper in cadmium sulfide crystals. FTP, no. 11, 1980, 2283-2285.

423. Zolot'ko, A.S., V.F. Kitayeva, N. Kroo, N.N. Sobolev, and L. Csillag (Hungarian, Russ transliteration: L. Chillag) (1). Effect of an optical wave field on the nematic phase of methoxybenzilidene butylanilin and a thermal lens effect in this crystal. KSpF, no. 12, 1980, 39-45.

G. MEASUREMENT OF LASER PARAMETERS

424. Bakayev, N.Yu., V.P. Varava, V.V. Vorob'yev, Ye.I. Yershov, M.P. Kalashnikov, Yu.A. Mikhaylov, A.V. Rode, G.V. Sklizkov, R.P. Tarasov, and O.I. Fedotov (1). Reconstructing the structure of laser radiation by the pulse characteristics of the recording track. Fizicheskiy institut AN SSSR. Preprint, no. 113, 1980, 45 p. (RZhF, 12/80, 12D1119)

425. Bantle, N.O., Yu.A. Drozhbin, A.V. Kolosov, V.Ye. Prokopenko, L.A. Rass, and B.M. Stepanov (0). Measuring the widths of lasing spectra in pulsed and c-w laser radiation. IT, no. 11, 1980, 27-28.

426. Brueckner, V., and B. Schroeder (NS). Electrooptic isolation of an individual picosecond pulse from the resonator of a YAG:Nd laser. ETP, no. 2, 1980, 173-176. (RZhF, 12/80, 12D1100)

427. Cosma, B.T. (NS). Simple method for measuring laser gain in a transverse discharge in a CO_2:N_2:He gas mixture. SCF, no. 6, 1980, 519-522. (RZhF, 12/80, 12D1112)

428. Demchuk, M.I., V.N. Vishnevskiy, V.P. Mikhaylov, and K.V. Yumashev (87). Device for studying the kinetics of ultrashort optical processes. *Deposit at* VINITI, *no.* 3809-80, 21 Aug 1980, 8 p. (RZhF, 12/80, 12D1104)

429. Gusev, V.G., L.N. Popov, and S.I. Len'kov (0). Analyzing FM radiation in the optical range by a four-mirror interferometer. Radiotekhnika, no. 8, 1980, 76-78. (RZhRadiot, 11/80, 11Ye191)

430. Kholodnykh, A.I. (2). Evaluating the power and threshold characteristics of pulsed single- and double-resonator optical parametric oscillators using approximate dynamic equations. IVUZ Radiofiz, no. 11, 1980, 1288-1294.

431. Kotyuk, A.F., D.G. Levchenko, A.M. Raytsin, and N.Sh. Khaykin (0). Method of evaluating the spatial distribution parameters of laser radiation. IT, no. 12, 1980, 24-26.

432. Kuzikovskiy, A.V., V.A. Pogodayev, and A.Ye. Rozhdestvenskiy (0). Using thermal imaging systems to measure the intensity distribution in high-power c-w IR laser beams. Sb 15, 177-179. (RZhRadiot, 12/80, 12Ye331)

433. Pol'skiy, Yu.Ye., and A.A. Yakutenkov (0). Ponderomotive energy meter. Sb 20, 40-45. (RZhF, 11/80, 11D1088)

434. Rueger, R., W. Scheler, N. Oerotel, and K.W. Gommel (NS). Method for measuring the wavelength of laser radiation. Patent GDR, no. 140791, 26 March 1980. (RZhRadiot, -1/80, 11Ye357)

435. Schmidt, M., D. Schubert, and P. Schuett (NS). Simultaneous multichannel recording of two-dimensional intensity distributions by television technology. Bild und Ton, no. 6, 1980, 181-183,192. (RZhRadiot, 11/80, 11Ye360)

436. Swatowski, A., and R. Wrona (NS). Sighting device for aligning lasers. Patent Poland, no. 104679, 31 Jan 1980. (RZhRadiot, 11/80, 11Ye333)

437. Vasil'yev, A.V., V.A. Zubov, and B.S. Rinkevichyus (1). Doppler method for measuring the time coherence of a laser. KSpF, no. 11, 1980, 13-19.

438. Voytovich, A.P., V.S. Kalinov, and V.M. Metel'skiy (3). Method for determining the coefficient of energy losses in a laser. Author's certificate USSR, no. 744802, 3 July 1980. (RZhRadiot, 12/80, 12Ye330)

439. Yevtyukhov, K.N., B. Zborzhil, and L.N. Kaptsov (2). Determining the operational thermal parameters of the active element in a YAG laser. PTE, no. 6, 1980, 164-166.

440. Zubov, V.A., and A.V. Krayskiy (0). Recording and processing of modulated optical signals. Sb 7, 86-92.

441. Zuyev, V.S., O.Yu. Nosach, and Ye.P. Orlov (1). Energy characteristics of lasers with refraction losses. Fizicheskiy institut AN SSSR. Preprint, no. 94, 1980, 32 p. (RZhF, 12/80, 12D1116)

H. LASER MEASUREMENT APPLICATIONS

1. Direct Measurement by Laser

442. Akishev, Yu.S., I.I. *Gorodnicheva*, A.I. Zakharchenko, A.P. Napartovich, and V.V. Ponomarenko (23). Contraction of a quasi-stationary glow discharge in nitrogen. TVT, no. 6, 1980, 1121-1125.

443. Alekseyenko, V.V., A.A. Bovin, A.V. Zuyevich, V.I. Kara, and B.V. Senin (0). Some results of optical processing of geologic data. Sb 17, 122-131.

444. Alekseyenko, V.V., A.A. Bovin, and A.V. Zuyevich (0). Results of optical processing of geologic and geophysical data. Sb 7, 212-218.

445. Anaskin, I.F., Ye.V. Ageyev, and P.A. Stoyanov (0). Correlation diffractograms: a method for determining the resolving power of an electron microscope. PTE, no. 6, 1980, 168-170.

446. Andreyev, V.M., Yu.M. Zadiranov, V.I. Korol'kov, T.S. Tabarov, and V.S. Yuferev (0). Photoeffect in smooth AlGaAs heterostructures of single and varying types at high levels of illumination. Avtometriya, no. 6, 1980, 76-82.

447. Aponin, G.I., A.A. Besshaposhnikov, and O.B. Bragina (0). Laser Doppler velocimeter based on an E-O converter and photomultiplier. PTE, no. 6, 1980, 156-160.

448. Aristov, V.V., G.A. Bazhkina, A.I. Yerko, and L.V. Dorozhkina (0). Using optical filtering to process x-ray diffraction images of crystals. Sb 5, 146-149.

449. Aristov, V.Yu., Ch.V. Kopetskiy, D.A. Molodov, and L.S. Shvindlerman (66). Kinetics and absorption properties of the <111> plane (inclined 36.5°) in Al-Fe alloys. FTT, no. 11, 1980, 3247-3253.

450. Arutyunov, V.A., N.A. Yesepkina, B.A. Kotov, Yu.A. Kotov, A.P. Lavrov, and I.I. Sayenko (0). Charge-coupled output devices for optical information processing systems. Sb 5, 169-174.

451. Ashayev, V.K., A.D. Levin, and O.N. Mironov (0). Method for determining the motion parameters of a medium. Otkr izobr, no. 48, 1980, 792084.

452. Auslender, A.L., G.N. Vishnyakov, and G.G. Levin (0). Device for measuring the spatial distribution of optical inhomogeneities of an object. Otkr izobr, no. 47, 1980, 789697.

453. Auslender, A.L., G.N. Vishnyakov, and G.G. Levin (0). Resolution of the integral equation for radon in an optical processor. OiS, v. 49, no. 5, 1980, 946-951.

454. Balabanov, A.I., S.S. Bogdanov, V.A. Skorik, and A.A. Feoktistov (0). Spatial-frequency spectra of images of an agitated water surface. Sb 5, 137-140.

455. Bart, M.A., A.V. Taranenko, and A.A. Khanonkin (0). Measuring the diameter of the calibrating aperture in a diamond wire drawing die by a laser diffraction method. IT, no. 12, 1980, 21-22.

456. Basov, N.G., I.G. Zubarev, A.B. Mironov, S.I. Mikhaylov, and A.Yu. Okulov (1). Laser interferometer with wavefront reversing mirrors. ZhETF, v. 79, no. 5, 1980, 1678-1686.

457. Behlert, R. (NS). Method for low-inductance trimming of cylindrical film resistors by laser radiation. Patent GDR, no. 140693, 19 March 1980. (RZhRadiot, 11/80, 11Ye438)

458. Berezin, G.V., and Yu.V. Sud'yenkov (12). Studying the shock waves from an electric explosion of a wire by the dynamic response of a solid obstruction. Sb 21, 119-128.

459. Beynarovich, L.N., N.P. Larionov, and A.V. Lukin (0). Holographic method for monitoring convex optical surfaces. Author's certificate USSR, no. 721672, 15 March 1980. (RZhRadiot, 12/80, 12Ye479)

460. Blum, E.Ya., Yu.A. Mikhaylov, and R.Ya. Ozols (63). Interferometric method for studying heat and mass exchange. Chapter in book: Teplo- i massoobmen v magnitnom pole (Heat and mass exchange in a magnetic field). Riga, Zinatne, 1980, 320-331.

461. Bobrovnikov, G.N., and B.A. Karpov (0). Prospects for using a piston and cylinder device for measuring the quantity and flow-rate of liquids. IT, no. 12, 1980, 29-30.

462. Bogorodskiy, V.V., T.Yu. Sheveleva, and V.N. Tarashkevich (175,110). Effect of an oil film on the agitation of a water surface. DAN SSSR, v. 255, no. 1, 1980, 198-201.

463. Budzyak, A., I.Ts. Ivanov, V.S. Kozlov, R. Lippert, V.I. Lyashchenko, V.A. Panyushkin, M.V. Stabnikov, V.I. Tarakanov, M.A. Tombak, I.V. Falomkin, Z. Tsisek, and Yu.A. Shcherbakov (52). Holographic recording of electron tracks in a hydrogen streak chamber. Ob"yedinennyy institut yadernykh issledovaniy. Dubna. Soobshcheniye, no. 1-80-303, 1980, 5 p. (RZhF, 12/80, 12V438)

464. Bukharin, N.A., I.A. Vodovatov, M.G. Vysotskiy, N.A. Yesepkina, V.Yu. Petrun'kin, and S.A. Rogov (0). Optical processing of information from antenna systems. Sb 5, 337-340.

465. Chalko, T. (NS). Holographic method for measuring susceptibility. Sb22, 49-54.

466. Chulyukov, V.A. (137). Sensitivity of a holographic instrument for measuring the tangential components of a velocity vector. Deposit at VINITI, no. 134-180, 20 June 1980, 6 p. (RZhRadiot, 11/80, 11Ye483)

467. Dal'chenko, P.G., M.I. Dzyubenko, and V.V. Shevchenko (84). E-O study on the parameters of dielectrics. ZhTF, no. 12, 1980, 2588-2592.

468. Dlugunovich, V.A., and V.A. Zhdanovskiy (0). Photometric sphere for measuring coefficients of reflection in the IR. ZhPS, v. 33, no. 6, 1980, 1102-1106.

469. Dubyanskiy, V.I., and V.A. Starodubtsev (0). Principles of color visualization of seismic data. Sb 17, 143-153.

470. Feduleyev, B.V., V.P. Ryabukho, and V.B. Rabkin (0). Possibility of measuring the temperature coefficient of linear broadening of anisotropic and isotropic materials by holographic interferometry. Sb 7, 219-228.

471. Feistauer, N., and W. Krieg (NS). Laser Doppler velocimeter. Patent GDR, no. 141073, 9 April 1980. (RZhRadiot, 11/80, 11Ye428)

472. Glushkov, A.S., V.B. Konstantinov, and D.F. Chernykh (0). Liquid-film spatial light modulators. Sb 5, 423-435.

473. Golikov, A.P., M.L. Gurari, and S.I. Prytkov (0). Holographic method for monitoring reflectors. Sb 7, 229-230.

474. Golubev, V.G., V.N. Yevseyev, K.G. Ivanov, V.I. Ivanov-Omskiy, and L.K. Panina (4). Cyclotron mass of electrons in bismuth-tin alloys. FTT, no. 11, 1980, 3433-3435.

475. Golubnichiy, P.I., V.M. Gromenko, and A.D. Filonenko (424). Nature of pulsed electrohydrodynamic sonoluminescence. ZhTF, no. 11, 1980, 2377-2380.

476. Golyamina, I.P., G.L. Kiselev, A.M. Lachugin, and V.K. Chulkova (0). Laser device for measuring the vibrational amplitude of electro-mechanical converters. PTE, no. 6, 1980, 161-164.

477. Gorshkov, V.A., and V.G. Lysenko (7). Study on aspherical wavefronts in an interferometer with lateral shift. OMP, no. 12, 1980, 1-4.

478. Grachev, A.N. (0). Method and device for measuring the geometric dimensions of an object. Otkr izobr, no. 40, 1980, 775615.

479. Grebenyuk, A.A. (0). Measuring the polarizability of lead vapors. OiS, v. 49, no. 5, 1980, 840-843.

480. Gribanov, D.D., V.P. Kulesh, A.K. Martynov, A.A. Orlov, and S.D. Fonov (133). Laser optical method for studying the trajectory of motion and bending-twisting deformations of blades of rotor models. Sb 23, 88-95.

481. Gulyakin, V.A., V.V. Danilevich, Ye.V. Novikov, S.K. Tovmasyan, A.F. Cheryavskiy, and V.A. Chudovskiy (3). Wideband system for analysis of statistical distributions of time intervals. PTE, no. 6, 1980, 208-209.

482. Gusakov, G.M., Yu.S. Bokov, V.P. Lavrishchev, L.I. Livshin, and V.N. Nosov (O). Device for depositing organic films in the gas phase under UV irradiation. PTE, no. 6, 1980, 184-185.

483. Gusev, A.M., N.K. Shelkovnikov, V.V. Rozanov, and M.V. Solntsev (2). Study on the structure of a liquid flow in a channel, using an optical Doppler hydrometer. Meteorologiya i gidrologiya, no. 11, 1980, 114-117.

484. Gushin, V.V., and A.I. Khil'ko (O). Optical methods for processing signals from seismic sources. Sb 5, 387-389.

485. Keprt, J., and J. Simorda (NS). Holographic pneumatic-product analyzer. Sb 24, 69-96. (RZhRadiot, 12/80, 12Ye483)

486. Khoroshev, M.V. (O). Selecting the radiation source for an interference goniometer. IT, no. 11, 1980, 29-31.

487. Kiessling, A., and W. Schreiber (NS). Method for obtaining a scale. Patent GDR, no. 141441, 30 April 1980. (RZhRadiot, 11/80, 11Ye361)

488. Klimkin, V.M., and V.Ye. Prokop'yev (O). Measuring the effective lifetimes of metastable states in a gas discharge plasma. OiS, v. 49, no. 6, 1980, 1081-1085.

489. Klyubin, V.V., V.A. Noskin, N.A. Sakharova, and O.S. Chechik (252). Using optical mixing to study the diffusion of spherical particles. ZhTF, no. 11, 1980, 2433-2441.

490. Kochenov, V.I. (O). Automatic focusing using an inclined laser beam. Sb 25, 90. (Cited in TKiT, no. 11, 1980, 75)

491. Kolbanovskaya, N.A., S.V. Kononova, A.F. Kotyuk, B.M. Stepanov, and V.A. Fabrikov (O). Evaluating the accuracy of experimentally-formed Airy diffraction patterns. Metrologiya, no. 12, 1980, 24-26.

492. Kotlikov, Ye.N., and V.I. Tokarev (O). Determining the isotopic shift in the neon 632.8 nm line using a linear absorption method during magnetic scanning. OiS, v. 49, no. 5, 1980, 890-895.

493. Kovalenko, V.F. (O). Method for controlling epitaxial layers of variable composition semiconductors. Avtometriya, no. 6, 1980, 54-56.

494. Krasnov, V.F., and V.G. Remesnik (O). Mechanism for reversible photostructural changes in As_2S_3 films. Avtometriya, no. 6, 1980, 101-105.

495. Krivokhizha, S.V., O.A. Niyazov, and Ye.V. Shvets (1). Spectrometer with a bi-directional Fabry-Perot interferometer and a digital photoelectric spectral recorder. PTE, no. 6, 1980, 137-139.

496. Kruszewski, J., T. Maciak, and Cz. Zajac (NS). A measuring setup for examination of planar optical waveguide properties. Opt app, no. 2, 1980, 155-160. (RZhRadiot, 11/80, 11Ye258)

497. Krylov, P.S., G.A. Kurshev, G.B. Melamud, A.V. Mironov, V.Ye. Privalov, L.P. Tkachenko, Yu.V. Filatov, A.M. Yudin, and V.N. Yastrebov (O). Stabilized ring laser for measuring gas flow. IT, no. 12, 1980, 50-51.

498. Larionov, N.P., A.V. Lukin, and R.A. Rafikov (7). Monitoring aspherical surfaces using synthetic axial holograms. OMP, no. 11, 1980, 40-44.

499. Lis, L. (NS). Laser gas alarm. Patent Poland, no. 106135, 31 March 1980. (RZhRadiot, 12/80, 12Ye394)

500. List, E., and M.P. Chayka (0). Operation of a spherical interferometer. OiS, v. 49, no. 6, 1980, 1094-1097.

501. Lizunov, V.D. (0). Metrological back-up for devices for measuring small linear dimensions. IT, no. 12, 1980, 19-21.

502. Meshcheryakov, Yu.I., and V.A. Morozov (12). Study on the initial stage of dynamic ductility in aluminum A-995 by e-beam impact loading. Sb 21, 128-149.

503. Morozov, S.V. (0). Operative optical information processing in radioholographic systems. Sb 5, 346-350.

504. Moskalenko, V.N., and O.A. Vorob'yev (0). Isochrone method in seismic holography. Sb 17, 159-166.

505. Naydenov, A.S., and I.Sh. Etsin (7). Shift in the position of an interference maximum during illumination of a Fabry-Perot interferometer by a recombining light beam. OMP, no. 12, 1980, 4-6.

506. Oleynik, O.T. (0). Information characteristics of a field of seismoholographic images. Sb 17, 154-158.

507. Ostrovskiy, Yu.I., and N.V. Morozov (O). Holographic interferometry of moving objects. Sb 7, 124-142.

508. Panibrattsev, Yu.A., G.S. Safronov, and A.P. Safronova (O). Noise stability in holographic interferometry. RiE, no. 11, 1980, 2342-2348.

509. Pavelek, M., M. Liska, and V. Bocek (NS). Holographic interferometer for studying the dynamics of changing phase objects. Jemna mechanika a optika, no. 6, 1980, 149-152. (RZhRadiot, 11/80, 11Ye481)

510. Petrakov, A.V. (145). Development of a filmless TV method for measuring the coordinates of fast-flowing processes. PTE, no. 6, 1980, 5-17.

511. Petru, F. (NS). Laser interferometer. Author's certificate Czechoslovakia, no. 182495, 15 March 1980. (RZhRadiot, 11/80, 11Ye330)

512. Pilipenko, A.T., and A.I. Volokova (O). Developments in analytic chemistry (1978 in review). ZL, no. 12, 1980, 979-994.

513. Precision optical elements and technological characteristics of their manufacture. Part 1. Fabry-Perot interferometers. Institut fiziki AN BSSR. Preprint, no. 216, 1980, 30 p. (RZhF, 12/80, 12D1249)

514. Prikryl, I. (NS). Effect of imperfections of holographic reconstruction on the interference pattern in one-exposure holographic interferometry. Sb 24, 19-45. (RZhRadiot, 12/80, 12Ye485)

515. Puris, B.I., Z.P. Shul'man, E.P. Polesskiy, and V.Ye. Ayerov (180). Interactions of polymer impurities. I-FZh, v. 39, no. 5, 1980, 820-825.

516. Puryayev, D.T., and V.A. Gorshkov (7). The IKAP-2 interferometer for monitoring the quality of astronomical mirrors. OMP, no. 12, 1980, 17-20.

517. Rakhimov, D.A., and V.D. Tron'ko (51). Holographic interferometry with sinusoidal phase modulation of the reference wave. VKU, no. 21, 1980, 99-103. (RZhRadiot, 12/80, 12Ye485)

518. Rassokha, A.A., and V.Ya. Antsibor (200,194). Holographic and speckle interferometry in various problems of mining mechanics. Sb 7, 164-167.

519. Rassokha, A.A. (0). Holographic diagnostics of macroinhomogeneous solids. Sb 7, 204-211.

520. Rinkevichyus, B.S., V.I. Smirnov, and Ye.L. Sokolova (19). Study on the interference of Gaussian beams. Tr 5, 3-11. (RZhMekh, 12/80, 12B1161)

521. Rudenko, V.N., and M.V. Sazhin (2). Laser interferometer as a detector of gravitational waves. KE, no. 11, 1980, 2344-2355.

522. Rygalin, V.G., D.A. Grechinskiy, V.A. Klochko, and B.V. Turobov (395). Automated laser system for multidimensional studies of complex structures under the influence of a sign-varying force. (Cited in Pribory i sistemy upravleniya, no. 12, 1980, 43).

523. Sabirov, L.M., Ya. Turakulov, and T.M. Utarova (278). Absorption of hypersound by stratifying solutions near the critical point. ZhETF, v. 79, no. 6, 1980, 2263-2270.

524. Sazhin, B.S., T.Yu. Vekua, T.V. Tsirekidze, and N.V. Zemlyakov (0). Laser anemometer study on the structure of flows in equipment with opposed twisted flows. Sb 26, 92-93. (RZhMekh, 12/80, 12B1067)

525. Schejbal, V., and V. Kovarik (NS). Holography methods for antenna near-field measurement. TESLA electronics, no. 2, 1980, 32-39. (RZhRadiot, 12/80, 12Ye475)

526. Schreiber, W., and L. Wenke (NS). Device for quantitative interpretation of holographic interferograms. Patent GDR, no. 141078, 9 April 1980. (RZhRadiot, 11/80, 11Ye479)

527. Sergeyenko, T.N., and V.I. Yakovlev (0). Improving the signal/noise ratio in acoustooptic spectral analyzers. Sb 5, 366-370.

528. Shchepinov, V.P., V.S. Aistov, B.A. Morozov, and A.F. Arzhanov (0). Measuring the elastic and permanent distortion of gear teeth using a holographic interferometric method. Vestnik mashinostroyeniya, no. 12, 1980, 3-6.

529. Shmal'gauzen, V.I. (2). Interferometers for studying small oscillations. UFN, v. 132, no. 4, 1980, 678-684.

530. Shmarev, Ye.K. (0). Optical calculation of the ambiguity function of signals. Sb 5, 351-357.

531. Smolyak, Ye.L. (7). Optical system for imaging the atomization zone in monochromatic radiation. OMP, no. 11, 1980, 60-61.

532. Spornik, N.M. (0). Device for quantitative analysis of inhomogeneities in transparent media. Author's certificate USSR, no. 748126, 18 July 1980. (RZhMekh, 12/80, 12B1184)

533. Sterligov, V.A., and V.B. Bortsov (0). Device for measuring the optical properties of an active medium under pulsed excitation. PTE, no. 6, 1980, 148-150.

534. Strinadko, L.V., V.K. Polyanskiy, and M.T. Strinadko (0). Structure of the scattered field from a phase transparency. OiS, v. 49, no. 5, 1980, 952-957.

535. Strukov, B.A., T.P. Spiridonov, and K.A. Minayeva (2). Determining the acoustic parameters of crystals by optical heterodyning. PTE, no. 6, 1980, 154-156.

536. Tarbeyev, Yu.V., and B.I. Ignat'yev (0). Sixth session of the Consultative Committee on Standardizing the Meter, Sevres, France, 1979. IT, no. 12, 1980, 61-62.

537. Tatarchenko, V.A., and L.M. Umarov (66). IR radiation accompanying the crystallization of sapphire. Kristal, no. 6, 1980, 1311-1313.

538. Ushakov, B.N. (0). Experimental optical studies on the strength of machine elements. IVUZ Mashinostroyeniye, no. 9, 1980, 31-35. (RZhMekh, 12/80, 12V874)

539. Usov, V.S., A.M. Zhilkin, and A.B. Shereshev (120). Laser applications in self-collimated linear and angular measurements. IVUZ Priboro, no. 11, 1980, 74-78.

540. Uvarov, F.A., L.V. Iogansen, and Ye.P. Fesenko (0). Experimental study of interferometers with resonance tunnel coupling. Deposit at VINITI, no. 3022-80, 14 July 1980, 5 p. (RZhF, 11/80, 11D1191)

541. Vasilenko, Yu.G. (30). Development of optical circuits in two-frequency laser Doppler anemometry. Leningradskiy institut tochnoy mekhaniki i optiki. Dissertation, 1980, 16 p. (KLDV, 12/80, 18052)

542. Vasil'yev, A.V., and B.S. Rinkevichyus (19). Crossed beam laser Doppler anemometer. KE, no. 11, 1980, 2506-2508.

543. Vertoprakhov, V.V., and Yu.V. Chuguy (0). Optical method for measuring the sizes of moving objects based on scattered waves. Sb 5, 150-154.

544. Vladimirov, A.P. (421). Using thick-layer photoemulsions in holographic interferometry of natural cracks [in plexiglass]. Deposit at VINITI, no. 3577-80, 12 Aug 1980, 19 p. (RZhF, 11/80, 11D1140)

545. Vlasov, N.G., S.G. Galkin, Yu.P. Presnyakov, and B.M. Stepanov (0). Elimination of speckle noise in interferometry of diffusely reflecting objects. Sb 7, 143-149.

546. Volkov, V.I., N.S. Danilov, V.D. Zhak, V.A. Mukhin, V.Ye. Nakoryakov, V.I. Titkov, and Ya.Ya. Tomsons (0). Study on the hydrodynamics of a boundary layer using a cubical packing model. ZhPMTF, no. 6, 1980, 58-64.

547. Yakush, Ye.Yu. (0). Using memory cathode-ray tubes in devices for processing seismic information. Sb 17, 132-142.

548. Yudintsev, G.G., and G.P. Grikun (51). Measuring microdeformations by holographic and television apparatus. VKU, no. 21, 1980, 75-78. (RZhRadiot, 12/80, 12Ye486)

549. Zakirova, R.G., A.V. Lukin, R.A. Rafikov, and T.M. Saferova (7). Effect of the thermal gradient of air on the precision of large mirror control. OMP, no. 12, 1980, 6-8.

550. Zelinskiy, I.N., V.T. Chernykh, and A.G. Belyayev (7). Using a holographic interferometer to visualize the 3-D gas flows from an aeroballistic trace. OMP, no. 11, 1980, 1-3.

551. Zemskov, K.I., M.A. Kazaryan, G.G. Petrash, V.N. Smorchkov, Yu.P. Timofeyev, and S.A. Fridman (1). Laser projection microscope with a barium vapor amplifier and a luminescent screen for visualizing IR images. KE, no. 11, 1980, 2454-2459.

552. Zhilkin, V.A. (0). Studying plane problems by holographic interferometry. Problemy prochnosti, no. 7, 1980, 104-107. (RZhMekh, 11/80, 11V1142)

553. Zinov'yev, Yu.S., and A.Ya. Pasmurov (0). Analysis of the conditions for shaping and optical processing of information in radar stations with a synthetic aperture. Sb 5, 341-345.

554. Zuyevich, A.V., V.B. Gavryushin, V.V. Alekseyenko, and V.M. Sugak (0). Using holographic systems in marine geology and geophysics. Sb 17, 110-121.

555. Zuyevich, A.V., V.V. Alekseyenko, and V.B. Gavryushin (0). Holographic visualization of underground objects. Sb 7, 150-155.

556. Zuyevich, A.V. (0). Using longwave holography systems to visualize seismic images. Sb 7, 176-187.

2. Laser-Excited Optical Effects

557. Abdullayev, G.B., V.I. Tagirov, A.G. Kyazym-zade, M.M. Panakhov, A.O. Guliyev, and V.M. Salmanov (86). Photoconductivity of indium monoselenide at high levels of optical pumping. FTP, no. 11, 1980, 2228-2231.

558. Agranat, M.B., P.S. Kondratenko, G.I. Rukman, and B.M. Stepanov (141). New method for studying the kinetics of electron-phonon interaction in metals. FTT, no. 11, 1980, 3492-3493.

559. Bragina, T.M., Yu.S. Lelikov, and Yu.G. Shreter (4). Kinetics of exciton condensation in germanium at high excitation levels. ZhETF, v. 79, no. 5, 1980, 1838-1849.

560. Dudkin, V.I., V.Yu. Petrun'kin, and V.V. Semenov (0). Method for exciting spin echo in an optically oriented medium using intensity modulated optical pumping. RiE, no. 11, 1980, 2406-2409.

561. Garbuzov, D.Z., V.B. Khalfin, and A. Abdullayev (0). Efficiency and radiative transition time in epitaxial GaAs and AlGaAs. Sb 27, 21-30. (RZhF, 11/80, 11Ye1273)

562. Giriat, W., and J. Stankiewicz (NS). Photoluminescence in $Mn_xCd_{1-x}Se$ crystals. PSS, v. A59, no. 1, 1980, K79-K80. (RZhF, 11/80, 11Ye1282)

563. Kiseleva, Ye.S., and P.I. Khadzhi (44). Time evolution of coherent exciton and photon densities. FTT, no. 11, 1980, 3409-3417.

564. Kostyshin, M.T., and Yu.V. Ushenin (6). Motion of the semiconductor-metal boundary during irradiation of As_2S_3-Ag systems. UFZh, no. 11, 1980, 1890-1893.

565. Kovarskiy, Ye.V., V.A. Kovarskiy, and I.D. Yaroshetskiy (0). Anti-Stokes radiation from grain seeds, excited by laser pulses. EOM, no. 6, 1980, 67-68.

566. Lomasov, Yu.N., and N.A. Rud' (4). Spin ordering in the impurity band of germanium. FTT, no. 12, 1980, 3616-3619.

567. Lopasov, V.P., S.B. Ponomareva, Yu.N. Ponomarev, and B.A. Tikhomirov (78). Study on absorption saturation at a vibrational-rotational transition in H_2O, using an optoacoustic method. KE, no. 12, 1980, 2582-2588.

568. Mamedov, K.K., M.A. Aldzhanov, M.I. Mekhtiyev, and I.G. Kerimov (60). Thermal capacity of thallium sulfide, selenide and telluride at low temperatures. I-FZh, v. 39, no. 6, 1980, 1005-1009.

569. Minogin, V.G. (72). Kinetic equation for atoms interacting with laser radiation. ZhETF, v. 79, no. 6, 1980, 2044-2056.

570. Nemet, B., K. Szucs, M. Hilbert, and L. Kozma (NS). Measurement of fluorescence decay of rhodamine 6G solutions by TEA UV N_2 laser excitation. APC, no. 3-4, 1979, 103-108. (RZhF, 11/80, 11D1097)

571. Pogosyan, A.R., Ye.M. Uyukin, and A.P. Levanyuk (13). Experimental detection of a non-field contribution to the photorefractive effect in $LiNbO_3$:Fe crystals. FTT, no. 12, 1980, 3725-3727.

572. Vaynrib, Ye.A. (0). Statistical properties of radiation and depth of light penetration in semiconductors under conditions of absorption saturation. FTP, no. 12, 1980, 2329-2332.

573. Velichko, V.Ya. (29). Effect of irradiation temperature on phase transition parameters in VO_2 films. ZhTF P, no. 22, 1980, 1345-1349.

574. Vorob'yev, L.Ye., A.D. Galetskaya, A.M. Manchinskiy, I.I. Farbshteyn, V.A. Shalygin, and A.V. Shturbin (29,4). Exclusion effect in tellurium. FTP, no. 11, 1980, 2128-2133.

575. Zalesskaya, G.A., and S.I. Blinov (0). Effect of laser vibrational excitation of triplet donor molecules on mixed triplet-triplet annihilation in anthracene and diacetyl vapors. OiS, v. 49, no. 6, 1980, 1114-1118.

3. Laser Spectroscopy

576. Akulin, V.M., and N.V. Karlov (1). Redistribution of vibrational energy under laser pumping of polyatomic molecules to high vibrational levels. ZhETF, v. 79, no. 6, 1980, 2104-2118.

577. Aleksandrov, O.V., Yu.I. Gorina, and K.V. Kiseleva (1). Low temperature lattice instability of PbTe-SnTe systems. ZhTF, no. 11, 1980, 2473-2475.

578. Atutov, S.N., S.G. Rautian, G.D. Rodionov, E.G. Saprykin, and A.M. Shalagin (0). Nonlinear polarization spectroscopic method for studying disorienting collisions. OiS, v. 49, no. 6, 1980, 1041-1049.

579. Bagayev, S.N., M.V. Belyayev, A.K. Dmitriyev, and V.P. Chebotayev (159). Observing an anomalous Zeeman effect on the $F_2^{(2)}$ line of methane. ZhETF P, v. 32, no. 11, 1980, 661-665.

580. Baranov, P.G., V.P. Danilov, V.I. Zhekov, T.M. Murina, L.Ye. Nagli, and A.M. Prokhorov (1). Induced optical absorption in KI-Tl^+ crystals under the action of intense laser radiation. KSpF, no. 5, 1980, 33-38. (RZhF, 11/80, 11D385)

581. Barta, Ch., M.F. Limonov, and Yu.F. Markov (4). Raman spectra and phase transition in $Hg_2Cl_{1.2}Br_{0.8}$ mixed crystals. FTT, no. 11, 1980, 3429-3432.

582. Bayev, V.M., T.P. Belikova, S.A. Kovalenko, E.A. Sviridenkov, A.F. Suchkov, and D.D. Toptygin (0). Spectrum of atmospheric absorption in the 625-637 nm range obtained by intracavity laser spectroscopy. OiS, v. 49, no. 5, 1980, 1023-1024.

583. Belen'kiy, G.L., M.O. Godzhayev, R.Kh. Nani, and E.Yu. Salayev (60). Effect of an isoelectron oxygen impurity on the edge luminescence spectrum of GaSe at 4.2 K. FTP, no. 12, 1980, 2394-2396.

584. Belyy, M.U., I.V. Zakharchenko, B.A. Okhrimenko, and V.A. Skryshevskiy (51). Spectra and kinetics of luminescence from antimony complexes. UFZh, no. 11, 1980, 1785-1788.

585. Boroshneva, T.V., and V.A. Nikitenko (19). Luminescent properties of copper chloride powder. IVUZ Fiz, no. 12, 1980, 99-100.

586. Brodin, M.S., P.I. Budnik, N.I. Vitrikhovskiy, and M.G. Matsko (5). Bose condensation phase of excitons and their location in $Zn_xCd_{1-x}Se$ crystals. UFZh, no. 11, 1980, 1836-1840.

587. Chukanova, I.N., N.G. Aleksandrovskaya, V.K. Dobrokhotova, Yu.V. Naboykin, and F.S. Pokrovskaya (0). Study on the absorption spectra and fluorescence of pyrene in diphenyl and durol single crystals at 4.2 K. ZhPS, v. 33, no. 6, 1980, 1054-1059.

588. Gasanly, N.M., A.F. Goncharov, B.M. Dzhavadov, N.N. Mel'nik, V.I. Tagirov, and Ye.A. Vinogradov (0). Vibrational spectra of $TlGaTe_2$, $TlInTe_2$ and $TlInSe_2$ layer single crystals. PSS, v. B97, no. 1, 1980, 367-377. (RZhF, 12/80, 12D528)

589. Gavaleshko, N.P., A.I. Savchuk, P.P. Vatamanyuk, M.S. Kitsa, and A.N. Lyakhovich (53). Effect of Fe impurities on the optical spectra of InSe single crystals. UFZh, no. 11, 1980, 1914-1915.

590. Gershenzon, Yu.M., S.D. Il'in, O.P. Kishkovich, Ya.S. Lebedev, Rub.T. Malkhasyan, V.B. Rozenshteyn, and G.R. Trubnikov (67). Simultaneous recording of atoms and radicals in a chemical reaction zone using a dual-range laser magnetic resonance - EPR spectrometer. DAN SSSR, v. 255, no. 3, 1980, 620-622.

591. Gorelenok, A.T., M.Z. Zhingarev, V.V. Mamutin, V.K. Tibilov, and A.S. Usikov (0). High efficiency InGaAsP-InP heterostructure LED's emitting in the 1.0-1.6 μm region. Avtometriya, no. 6, 1980, 82-84.

592. Govorun, D.N., I.I. Kondilenko, P.A. Korotkov, and V.M. Fomin (51). Photon counters for Raman spectroscopy. VKU, no. 21, 1980, 69-75. (RZhF, 12/80, 12D1319)

593. Kaminskiy, A.A., N.R. Agamalyan, S.E. Sarkisov, L.N. Dem'yanets, A.N. Lobachev, and G.A. Yemel'chenko (13). Spectral-luminescent study on $NaGdGeO_4$-Nd^{3+} crystals. NM, no. 12, 1980, 2185-2192.

594. Khodeyev, Yu.S. (0). Current level and trends in the development of mass-spectroscopy for scientific research. Pribory, sredstva avtomatizatsii i sistemy upravleniya. TS-4. Analiticheskiye pribory i pribory dlya nauchnykh issledovaniy. Obzornaya informatsiya, no. 6, Moskva, 1980, 32 p.

595. Klochkov, V.P. (0). 26th All-Union Conference on Molecular Luminescence, Samarkand, 4-6 Oct 1979. OiS, v. 49, no. 5, 1980, 1033-1034.

596. Kondilenko, I.I., P.A. Korotkov, V.A. Klimenko, and G.S. Felinskiy (0). Raman spectrum of Ti in a $LiNbO_3$ diffuse planar waveguide. OiS, v. 49, no. 5, 1980, 1011-1013.

597. Kondratenko, P.A., L.A. Khutornaya, and M.T. Shpak (0). Effect of crystal lattice defects on the luminescence spectrum of anthracene crystals. ZhPS, v. 33, no. 5, 1980, 856-859.

598. Korneychuk, V.A., N.K. Moiseyeva, and G.S. Pekar' (0). Luminescence of ZnSe single crystals at high levels of excitation. ZhPS, v. 33, no. 6, 1980, 1036-1039.

599. Linnik, L.F., and L.G. Linnik (3). IR absorption characteristics in germanium under laser pumping. FTP, no. 11, 1980, 2252-2256.

600. Mierzecki, R. (NS). Raman scattering tensor components of solutions of D-chloroform and D-chloroform-dimethylsulfoxide complexes. APP, v. A58, no. 1, 1980, 87-94. (RZhF, 12/80, 12D400)

601. Mulenko, S.A., and V.N. Smirnov (1). Study on elementary processes involving the NH_2 radical using intracavity laser spectroscopy. KSpF, no. 12, 1980, 24-31.

602. Nazintsev, V.V., and A.P. Savchenko (10). Fine structure spectra for GaAs photoconductivity in a region of strong optical exciton mixing. FTT, no. 11, 1980, 3474-3476.

603. Nemkovich, N.A., I.M. Gulis, and V.I. Tomin (0). Effect of directed energy transfer on the kinetics of emission spectra for complex molecular solid solutions. ZhPS, v. 33, no. 6, 1980, 1080-1084.

604. Neporent, B.S., A.G. Spiro, V.B. Shilov, and B.D. Faynberg (0). Interpreting the shape of the Raman spectra for superluminescent molecular systems. OiS, v. 49, no. 6, 1980, 1109-1113.

605. Nizametdinova, M.A. (0). Raman spectrum of InTe and TlSe single crystals. PSS, v. B97, no. 1, 1980, K9-K22. (RZhF, 12/80, 12D537)

606. Polivanov, Yu.N., and R.Sh. Sayakhov (1). Study on hyper-Raman scattering in a calcite crystal. Fizicheskiy institut AN SSSR. Preprint, no. 103, 1980, 20 p. (RZhF, 12/80, 12D926)

607. Porotnikov, N.V., K.I. Petrov, A.M. Gens, and M.B. Varfolomeyev (179), Study on $BaLn_2Ti_nO_{2n+4}$ compounds (where n = 2,3,4) using vibrational spectroscopy. ZhNKh, no. 11, 1980, 2916-2921.

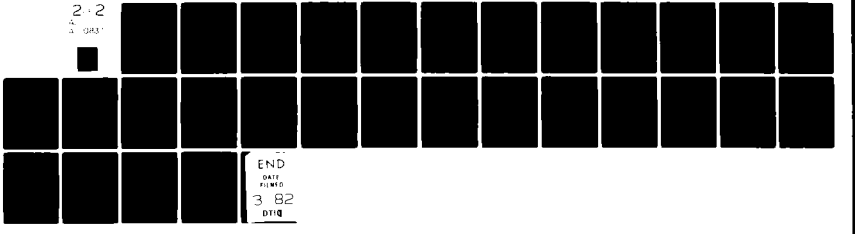
608. Porotnikov, N.V., O.I. Kondratov, K.I. Petrov, and O.V. Sidorova (0). Vibrational spectra of rare earth elements and indium dioxides. ZhNKh, no. 12, 1980, 3224-3228.

609. Prisyazhnyy, V.D., S.P. Baranov, and B.M. Voronin (0). Raman spectra of the nitrate ion in alloys of ternary reciprocal systems of nitrates and univalent metal halides. Ukrainskiy khimicheskiy zhurnal, no. 4, 1980, 343-348. (RZhF, 12/80, 12D390)

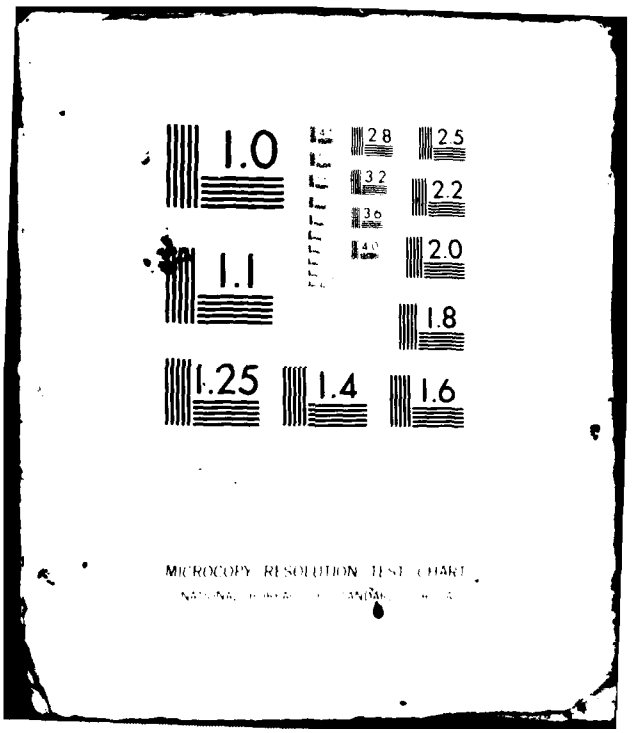
AD-A110 837 DEFENSE INTELLIGENCE AGENCY WASHINGTON DC DIRECTORAT--ETC F/6 20/5
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NOVEMBER-DECEMBER 19--ETC(U)
NOV 81

UNCLASSIFIED DIA-DST-2700Z-001-82 NL

2 2



END
DATE FILMED
3 82
DTIC


1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8
MICROCOPY RESOLUTION TEST CHART

610. Raychenok, T.F., I.M. Byteva, K.I. Salokhiddinov, and L.M. Bolot'ko (0). Increasing the luminescent intensity of oxygen under the action of impurity gases. OiS, v. 49, no. 6, 1980, 1208-1211.

611. Razumova, T.K., and I.O. Starobogatov (0). Two-photon spectroscopy of liquid benzene and liquid toluene. OiS, v. 49, no. 6, 1980, 1192-1195.

612. Romanovskaya, G.I., V.I. Pogonin, and A.K. Chibisov (0). Luminescence quenching of uranyl ions by inorganic ions in aqueous solutions. ZhPS, v. 33, no. 5, 1980, 850-855.

613. Smirnov, G.I. (75). Polarization phenomena and acceleration effects in laser spectroscopy. Institut avtomatiki i elektrometrii SOAN. Dissertation, 1980, 26 p. (KLDV, 12/80, 17372)

614. Sukhoverkhov, V.F., and Ya. Moltashova (18). Silver tetrafluorobromate. ZhNKh, no. 11, 1980, 3041-3045.

615. Tkachuk, P.N., V.S. Blashkiv, G.M. Grigorovich, and V.S. Manzhara (0). Photoluminescence of $(ZnSe)_{1-x}(GaAs)_x$ solid solution single crystals. ZhPS, v. 33, no. 6, 1980, 1049-1053.

616. *Tudorache, St.* (NS). *Quantum beats produced by a pulsed laser*. SCF, no. 6, 1980, 567-585. (RZhF, 12/80, 12D294)

617. Yurchenko, E.N., G.N. Kustova, T.P. Lazarenko, A.V. Lavrov, and I.V. Tananayev (527). IR and Raman spectra of rare earth ultraphosphates. NM, no. 12, 1980, 2235-2239.

618. Zil'bershteyn, Kh.I. (0). Contemporary light sources for optical emission spectral analysis. ZL, no. 12, 1980, 1095-1105.

J. BEAM-TARGET INTERACTION

L. Metal Targets

619. Abraizov, M.G., N.F. Vishnevskaya, V.A. Kaplin, and V.N. Chokyrlan (0). Using a glow discharge to trim thick-film resistors. EOM, no. 6, 1980, 80-81.

620. Akimov, A.G., A.P. Gagarin, V.G. Dagurov, V.S. Makin, and S.D. Pudkov (0). Study on the properties of oxide films formed after pulsed heating of metal. ZhTF, no. 11, 1980, 2461-2463.

621. Antonov, A.S., S.A. Il'chenko, and A.T. Kunavin (74). Producing metal vapors with a pulsed light source. TVT, no. 6, 1980, 1263-1270.

622. Ben'kov, A.V., A.V. Zinov'yev, and V.B. Lugovskoy (202). Structure of the energy spectra for hot electrons produced during laser irradiation of metals. ZhTF P, no. 23, 1980, 1456-1459.

623. Bergel'son, V.I., and I.V. Nemchinov (276). Numerical study on the interaction of laser radiation and a target in a vacuum, allowing for the spectral composition of the radiation emitted from the forming plasma. KE, no. 11, 1980, 2356-2361.

624. Golovko, L.F., V.S. Kovalenko, V.S. Chernenko, V.N. Garashchuk, P.A. Vasilets, and A.A. Svirgun (0). Principles of strengthening carbon-steel alloys with high-power c-w CO_2 laser radiation. EOM, no. 6, 1980, 26-29.

625. Grigor'yants, A.G., Yu.N. Ivanov, and A.N. Grezev (24). Mechanical properties of laser-welded joints. Tr 6, 10-18. (RZhMekh, 12/80, 12V1194)

626. Khokhlov, N.P., V.A. Sviridov, B.L. Glushak, S.A. Novikov, and A.G. Ivanov (0). Attenuation of transient compression waves in aluminum and copper. ZhTF P, no. 23, 1980, 1427-1430.

627. Uglov, A.A., and A.P. Gus'kov (0). Vaporization of metal in an extraneous gas atmosphere. FiKhOM, no. 6, 1980, 49-52.

628. Zubov, V.I., V.M. Krivtsov, I.N. Naumova, Yu.D. Shmyglevskiy (0). Interaction of laser radiation with an aluminum container and its vapors. ZhVMMF, no. 6, 1980, 1513-1524.

2. Dielectric Targets

629. Buzhinskiy, I.M., and A.Ye. Pozdnyakov (7). Laser destruction of glass with various sized impurities. OMP, no. 12, 1980, 20-22.

630. Genkin, V.N., A.M. Miller, and L.V. Soustov (426). Dynamics of laser destruction of KDP crystals. ZhETF, v. 79, no. 5, 1980, 1880-1887.

631. Glushak, B.L., S.A.Novikov, V.A. Sviridov, and A.V. Chernov (0). Study on stress waves in glass textolite and fluoroplastic during quick heating by radiation. ZhPMTF, no. 6, 1980, 99-104.

632. Gomelauri, G.V., A.S. Yepifanov, A.A. Manenkov, and A.M. Prokhorov (1). Statistical characteristics of avalanche ionization of wide-band dielectrics by laser radiation under conditions of free-electron deficiency. ZhETF, v. 79, no. 6, 1980, 2356-2363.

633. Kukhtarev, N.V., and A.V. Kondrachuk (5). Kinetics of formation and migration of radiation defects in superlattices by an electrical field. ZhTF P, no. 22, 1980, 1367-1371.

634. Kytina, I.G., and B.Ye. Kinber (141). Fatigue failure of glasses under laser irradiation. KE, no. 11, 1980, 2427-2431.

635. Nanai, L., Yu.K. Yushin, E.Szil, and I. Hevesi (0) (Russ transliteration of Hungarian names: L. Nanai, E.Sil, I. Kheveshi). Photoconductivity kinetics of V_2O_5 single crystals under the effect of laser radiation. APC, no. 3-4, 1979, 109-112. (RZhF, 11/80, 11Ye1208)

636. Novikov, N.P. (176). Effect of absorbing impurities on the process of laser destruction of polymer materials. UFZh, no. 11, 1980, 1781-1784.

637. Rogalin, V.Ye., T.I. Samoylova, N.A. Tishchenko, and M.P. Shaskol'skaya (152). Pore formation in alkali-halide single crystals under pulsed e-m irradiation. FTT, no. 12, 1980, 3549-3555.

3. Semiconductor Targets

638. Chistyakov, Yu.D. (0). Lowering the temperature of fundamental physical and chemical processes in microelectronics technology as a means of increasing IC reliability. Mikroelektronika, no. 6, 1980, 540-547.

639. Dulepov, Ye.V., V.A. Ivanchenko, V.G. Tsukerman, and N.Yu. Chernysheva (0). Structural morphological transformations in arsenic sulfide films induced by irradiation and thermal processing. Avtometriya, no. 6, 1980, 85-91.

640. Grazhdanbin, V.N., and E.T. Shipatov (0). Using a method of elastic scattering of ions to study the processes of ion sputtering, implantation by recoil atoms, and laser annealing of ion-doped layers. Deposit at VINITI, no. 3011-80, 14 July 1980, 21 p. (RZhF, 11/80, 11Ye873)

641. Komolov, V.L., M.N. Libenson, B.A. Raykhman, and V.N. Smirnov (0). Pulsed initiation of optical breakdown in semiconductors under c-w IR irradiation. ZhTF P, no. 21, 1980, 1296-1299.

4. Miscellaneous Studies

642. Bondarenko, A.V., Ye.V. Dan'shchikov, V.A. Dymshakov, F.V. Lebedev, and A.V. Ryazanov (23). Study on the quasistationary interaction of CO_2 laser radiation with a graphite target in the atmosphere. KE, no. 12, 1980, 2594-2598.

643. Bondarenko, A.V., Ye.V. Dan'shchikov, V.A. Dymshakov, F.V. Lebedev, and A.V. Ryazanov (0). Spectroscopic study on a quasistationary laser flare in graphite. ZhPS, v. 33, no. 6, 1980, 1024-1029.

644. Danilychev, V.A., V.D. Zvorykin, I.V. Kholin, and A.Yu. Chugunov (1). Study on the dynamics of plasma formation near a target under the action of a microsecond CO_2 laser pulse.

645. Druzhinin, A.A., V.Yu. Orlov, A.V. Polevoy, V.K. Potapov, and F.F. Sukhov (445). Conditions for selective processes in laser vaporization. ZhTF, no. 11, 1980, 2485-2488.

646. Kulik, A.N., and O.Z. Khuda (0). Effect of the shape of a volumetric heat source on the temperature field in a thin plate. FiKhOM, no. 6, 1980, 26-30.

647. Nastoyashchiy, A.F. (0). Mechanism of optical breakdown in a gas with easily-ionized impurities. KE, no. 11, 1980, 2497-2499.

648. Vul'fson, Ye.K., V.I. Dvorkin, and A.V. Karyakin (0). Determining the local vibrational temperature in a flare from a target containing graphite. ZhPS, v. 33, no. 5, 1980, 925-927.

K. PLASMA GENERATION AND DIAGNOSTICS

649. Abdullayev, A.Sh., and A.A. Asrorov (215). Generating spontaneous magnetic fields in an anisotropic laser plasma. ZhTF P, no. 23, 1980, 1424-1427.

650. Amus'ya, M.Ya., and V.K. Dolmatov (4). Electron capture by light at resonant frequencies. ZhETF, v. 79, no. 5, 1980, 1664-1670.

651. Beglyakov, N.N., V.K. Lyapidevskiy, V.A. Prorvich, and A.N. Furazhkin (16). Operation of an FEU-30 photomultiplier in a switched mode with a nanosecond control signal. PTE, no. 6, 1980, 131-132.

652. Bykovskiy, Yu.A., K.I. Kozlovskiy, Yu.P. Kozyrev, and A.S. Tsybin (16). Pulsed method for accelerating plasma. Otkr izobr, no. 44, 1980, 689500.

653. Bykovskiy, Yu.A., K.I. Kozlovskiy, Yu.P. Kozyrev, and A.S. Tsybin (16). Pulsed laser neutron generator. Otkr izobr, no. 44, 1980, 713374.

654. Chlodzinski, J., S. Denus, A. Dubik, A. Galkowski, K. Jach, J. Marczak, J. Owsik, and A. Sarzynski (NS). Influence of temporal and energetic laser pulse characteristics on the parameters of shock waves generated in plexiglass. JTP, no. 4, 1980, 423-440.

655. Cojocaru-Udrea, E. (NS). Gasdynamic code for a laser plasma. SCF, no. 4, 1980, 309-316. (RZhF, 11/80, 11G430)

656. Cosma, B.T., B.F. Gordiyets, A.G. Sviridov, and N.N. Sobolev (O). Determining the concentration and temperature of electrons in a transverse-discharge plasma of a pulsed CO_2 laser. SCF, no. 5, 1980, 409-417. (RZhF, 12/80, 12G363)

657. Dragila, R., V. Janovsky, and J. Neuberg (NS). Relaxation of fast electrons in laser fusion targets. CJP, v. B30, no. 5, 1980, 509-517. (RZhRadiot, 11/80, 11Ye451)

658. Dragulinescu, D., C. Grigoriu, E. Udrea, and M. Udrea (NS). Laser-triggered high-voltage spark gap. SCF, no. 5, 1980, 505-514. (RZhF, 12/80, 12G291)

659. Fisher, V.I. (580). Fast gas ionization wave in a high-power laser beam. ZhETF, v. 79, no. 6, 1980, 2142-2151.

660. Gabovich, M.D., I.S. Gasanov, and I.M. Protsenko (5). Ion extraction from a duoplasmatron through a channel with a radius on the order of the Debye length. ZhTF P, no. 24, 1980, 1509-1512.

661. Gaponov, S.V., V.I. Luchin, and M.D. Strikovskiy (426). Linking the characteristics of a CO_2 laser plasma flare to the electronic structure of the target atoms. ZhTF P, no. 23, 1980, 1409-1413.

662. Goetz, K., M.P. Kalashnikov, Yu.A. Mikhaylov, M. Rabol'd, A.V. Rode, G.V. Sklizkov, S.I. Fedotov, E. Foerster, and P. Zaumseil (1) (Russ transliteration of German names: Getts, Ferster, Tsaumzayl'). Measuring the absolute intensity of x-ray radiation from a laser plasma using planar crystals. KSpF, no. 12, 1980, 9-13.

663. Gribkov, V.A., and O.N. Krokhin (1). Laser micropinch with combined plasma heating. KSpF, no. 6, 1980, 45-50. (RZhF, 12/80, 12G149)

664. Kalal, M. (NS). Fast electron generation during the interaction of intense laser radiation with a plasma. PMFA, no. 4, 1980, 189-195. (RZhF, 12/80, 12G196)

665. Kostyukevich, Ye.A., L.Ya. Min'ko, and A.N. Chumakov (3). High-speed motion-picture interferometry study on the plasma dynamic processes from the action of laser radiation on absorptive materials. Institut fiziki AN BSSR. Preprint, no. 211, 1980, 7 p. (RZhF, 11/80, 11G428)

666. Rayzer, M.D., and A.A. Rukhadze (1). Method for producing a supercooled plasma with nonequilibrium ionization. ZhTF P, no. 23, 1980, 1417-1419.

667. Rayzer, Yu.P. (17). Optical discharges. UFN, v. 132, no. 3, 1980, 549-581.

668. Tomov, I. (NS). Controlled fusion with lasers. Fizika [Bulgaria], no. 3, 1980, 7-10. (RZhF, 12/80, 12G218)

669. Ulybin, S.A., and V.D. Chernetskiy (19). Development and testing of a thermal switch for a cryostat used in experiments with a laser plasma. Tr 7, 52-58. (RZhF, 11/80, 11G494)

670. Zverev, S.A., M.P. Kalashnikov, V.K. Lyapidevskiy, Yu.A. Mikhaylov, A.V. Rode, G.V. Sklizkov, and S.I. Fedotov (1). Using thermoluminescence detectors to study x-radiation from a laser plasma. Fizicheskiy institut AN SSSR. Preprint, no. 96, 1980, 189-195. (RZhF, 12/80, 12G197)

III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

671. Baklanov, Ye.V. (327). Fizicheskiye osnovy teorii lazerov (Physical fundamentals of laser theory). Novosibirskiy elektrotekhnicheskiy institut. Novosibirsk, 1980, 98 p. (KL, 47/80, 46464)

672. Barbanel', I.S. (0). Optoelektronika pri obrabotke kinofotomaterialov (Optoelectronics in the processing of motion picture film materials). Moskva, Iskusstvo, 1980, 188 p.

673. Dinamicheskiye protsessy v gazakh i tverdykh telakh (Dynamic processes in gases and solids). Edited by B.V. Filippov (12). Leningradskiy GU. Fizicheskaya mekhanika, no. 4, 1980, 228 p.

674. Fizika, khimiya i tekhnologiya poluprovodnikovykh geteroperekhodov i sozdannykh na ikh osnove ustroystv. Respublikanskaya konferentsiya, Tartu, 9-10 dekabrya 1980. Tezisy dokladov (Physics, chemistry and technology of semiconductor heterojunctions and of devices based on them. Republic conference, Tartu, 9-10 Dec 1980. Summaries of the reports). Tartu, 1980, 40 p.

675. Golografiya i opticheskaya obrabotka informatsii. Metody i apparatura. XII Vsesoyuznaya shkola po golografii, Pasanauri, 1980. Materialy (Holography and optical information processing. Methods and equipment. 12th All-Union Seminar on Holography, Pasanauri, 1980. Papers). Edited by V.G. Skrotskiy, B.G. Turukhano, and N. Turukhano (0). Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1980, 237 p.

676. Golografiya i opticheskaya obrabotka informatsii v geologii (Holography and optical information processing in geology). Edited by S.B. Gurevich and O.A. Potapov (4). Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1980, 181 p.

677. Primeneniye metodov opticheskoy obrabotki informatsii i golografii. III Vsesoyuznaya shkola po opticheskim metodam obrabotki informatsii, Riga, may 1980 (Application of optical information processing and holography. Third All-Union Seminar on Optical Information Processing Methods, Riga, May 1980). Edited by S.B. Gurevich and V.K. Sokolov (0). Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1980, 442 p.

678. Rasprostraneniye elektromagnitnykh voln (Propagation of electromagnetic waves). Institut yestestvennykh nauk Buryatskogo filiala SOAN. Ulan-Ude, 1980, 119 p.

679. Slovetskiy, D.I. (0). Mekhanizmy khimicheskikh reaktsiy v neravnovesnoy plazme (Mechanisms of chemical reactions in a nonequilibrium plasma). Moskva, Nauka, 1980, 310 p. (RZhF, 12/80, 12G374)

680. II Soveshchaniye po atmosfernoy optike. Tezisy dokladov. Chast' 3 (Second Conference on Atmospheric Optics. Summaries of the reports. Part 3). Institut optiki atmosfery SOAN. Tomsk, 1980, 222 p. (RZhRadiot, 12/80, 12Ye320)

681. III Vsesoyuznaya konferentsiya po besserebryanym i neobychnym fotograficheskim protsessam, may, 1980 (Third All-Union Conference on Non-Silver and Unconventional Photographic Processes, May 1980). Vil'nyusskiy GU. Vil'nyus, 1980, 224 p. (RZhF, 11/80, 11D1214)

682. VI Vsesoyuznyy simpozium po lazernomu i akusticheskomu zondirovaniyu atmosfery. Tezisy dokladov (6th All-Union Symposium on Laser and Acoustic Probing of the Atmosphere. Summaries of the reports). Institut optiki atmosfery SOAN. Tomsk, 1980. Part 1, 308 p. Part 2, 220 p. (RZhGeofiz 11/80, 11B66,67)

IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
APC	(APYCA)	Acta physica et chemica. Szeged
APP	(ATPLB)	Acta physica polonica
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
CCF	(CKCFA)	Ceskoslovensky casopis pro fysiku
CJP	(CZYPA)	Czechoslovak Journal of Physics
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovidi. Seriya A. Fizyko-matematychni ta tekhnichni nauky
DAN Uz	(DANUA)	Akademiya nauk Uzbekskoy SSR. Doklady
EOM	(EOBMA)	Elektronnaya obrabotka materialov
ETP	(EXPPA)	Experimentelle Technik der Physik
FAiO	(IFAOA)	Akademiya nauk SSR. Izvestiya. Fizika atmosfery i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
JTP	(JTPHD)	Journal of Technical Physics [Poland]

KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KVEKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KLDV	(KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
Kristal	(KRISA)	Kristallografiya
KSpF	(KRSFA)	Kratkiye soobshcheniye po fizike
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOV)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PMFA	(PMFAA)	Pokroky matematicky, fyziky a astronomie
PSS	(PSSAB) (PSSBB)	Physica Status Solidi (A). Applied Research (B). Basic Research
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Elektronnyye i ionnyye protsessy v ionnykh kristallakh, no. 8, Riga, 1980.
Sb2		Fizika, Khimiya i tekhnologiya poluprovodnikovykh geteroperekhodov i sozdannykh na ikh osnove ustroystv. Respublikanskaya konferentsiya, Tartu, 9-10 Dec 1980. Tezisy dokladov. Tartu, 1980.
Sb3		Voprosy atomnoy nauki i tekhniki. Termoyadernyy sintez, no. 1/5, Moskva, 1980.
Sb4		Analiz i inzhenernaya realizatsiya sistem funktsional'noy elektroniki SVCh diapazona. Kiyevskiy politekhnicheskiy institut. Deposit at UkrNIINTI, no. 2290, 2 Sep 1980.

Sb5 Primeneniye metodov opticheskoy obrabotki informatsii i golografii. Vsesoyuznaya shkola po opticheskim metodam obrabotki informatsii. 3rd. Riga, May 1980. Leningrad, 1980.

Sb6 Raschet, konstruirovaniye i tekhnologiya proizvodstva integral'noy i gradiyentnoy optiki. Tula, 1980.

Sb7 Golografiya i opticheskaya obrabotka informatsii. Metody i apparatura. Vsesoyuznaya shkola po golografii. 12th. Pasanauri, 1980. Materialy. Leningrad, 1980.

Sb8 Wissenschaftliche Zeitschrift der Paedagogischen Hochschule Karl Liebnecht. Potsdam, no. 1, 1980.

Sb9 Zondirovaniye fiziko-khimicheskikh parametrov atmosfery s ispol'zovaniyem moshchnykh lazerov. Institut optiki atmosfery SOAN. Tomsk, 1979.

Sb10 Rasprostraneniye elektromagnitnykh voln. Ulan-Ude, 1980.

Sb11 Nauchnyye informatsii, no. 40, Moskva, 1978.

Sb12 Spektral'nyye issledovaniya kosmicheskogo i atmosfernogo izlucheniya. Institut prikladnoy fiziki AN SSSR. Gor'kiy, 1979.

Sb13 Vsesoyuznyy simpozium po lazernomu i akusticheskomu zondirovaniyu atmosfery. 6th. Tezisy dokladov. Part 1. Institut optiki atmosfery SOAN. Tomsk, 1980.

Sb14 Nauchnyye informatsii, no. 44, Riga, Zinatne, 1980.

Sb15 Soveshchaniye po atmosfernoy optike. 2nd. Tezisy dokladov. Part 3. Institut optiki atmosfery SOAN. Tomsk, 1980.

Sb16 Razvitiye, vnedreniye i ekspluatatsiya sredstv svyazi. Vsesoyuznyy nauchno-tekhnicheskiy seminar, Riga, 1980. Tezisy dokladov. Riga, 1980.

Sb17 Golografiya i opticheskaya obrabotka informatsii v geologii. Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1980.

Sb18 Spektral'nyye metody obrabotki informatsii v nauchnykh issledovaniyakh. Pushchino, 1980.

Sb19 Fizicheskiye protsessy pri gorenii i vzryve. Moskva, 1980.

Sb20 Sverkhvysokochastotnyye ustroystva izlucheniya i obrabotki radiosignalov. Kazan', 1979.

Sb21 Dinamicheskiye protsessy v gazakh i tverdykh telakh. Leningradskiy GU, 1980.

Sb22 Zeszyty naukowe Akademii gorniczohutniczej, no. 785, 1980.

Sb23		Uchenyye zapiski TsAGI, no. 6, 1980.
Sb24		Acta Universitatis Palackianae Olomucensis. Facultas rerum naturalium, v. 57, Olomouc, 1978.
Sb25		Tekhnika sredstv svyazi. Seriya Tekhnika radioveshchatel'nogo priyema i akustiki, no. 2, 1979.
Sb26		Vsesoyuznoye soveshchaniye po matematicheskomu modelirovaniyu i upravleniyu vysokotemperaturnymi protsessami v tsiklonnykh i vikhrevykh apparatakh, 1980. Tezisy dokladov. Odessa, 1980.
Sb27		Fizika soyedineniy A^3B^5. Vsesoyuznaya konferentsiya. Materialy. Leningrad, 1979.
SCF	(SCEFA)	Studii si cercetari de fizica
TKiT	(TKTEA)	Tekhnika kino i televedeniya
Tr1	Trudy	Moskovskiy energeticheskiy institut. Trudy, no. 464, 1980.
Tr2		Moskovskiy institut inzhenerov zheleznodorozhnogo transporta. Trudy, no. 652, 1979.
Tr3		NII radio. Trudy, no. 2, 1980.
Tr4		Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 265, 1980.
Tr5		Moskovskiy energeticheskiy institut. Trudy, no. 465, 1980.
Tr6		Moskovskoye vyssheye tekhnicheskoye uchilishche. Trudy, no. 337, 1980.
Tr7		Moskovskiy energeticheskiy institut. Trudy, no. 452, 1980.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VKU	(-----)	Kiyevskiy universitet. Vestnik. Fizika
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	(ZFKHA)	Zhurnal fizicheskoy khimii
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhNKh	(ZNOKA)	Zhurnal neorganicheskoy khimii

ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZhVMMF	(ZVMFA)	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki
ZL	(ZVDLA)	Zavodskaya laboratoriya

V. AUTHOR AFFILIATIONS

NS. Non-Soviet
0. Affiliation not given
1. Physics Institute imeni Lebedev, AN SSSR (Fizicheskiy institut imeni Lebedeva AN SSSR).
2. Moscow State University (Moskovskiy gosudarstvennyy universitet).
3. Institute of Physics, AN BSSR, Minsk (Institut fiziki AN BSSR).
4. Physicotechnical Institute im Ioffe, Leningrad (Fiziko-tekhnicheskiy institut im Ioffe).
5. Institute of Physics, AN UkrSSR, Kiev (Institut fiziki AN UkrSSR).
6. Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR).
7. State Optical Institute im Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut im Vavilova).
10. Institute of Semiconductor Physics, Siberian Branch, AN SSSR, Novosibirsk (Institut fiziki poluprovodnikov Sibirskogo otdeleniya AN SSSR).
12. Leningrad State University (Leningradskiy GU).
13. Institute of Crystallography, AN SSSR, Moscow (Institut kristallografii AN SSSR).
14. University of Friendship Among Nations im Lumumba, Moscow (Universitet druzhby narodov im Lumumby).
15. Institute of Radio Engineering and Electronics, AN SSSR, Moscow (Institut radiotekhniki e elektroniki AN SSSR).
16. Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut).
17. Institute of Problems of Mechanics, AN SSSR, Moscow (Institut problem mekhaniki AN SSSR).
18. Institute of General and Inorganic Chemistry im Kurnakov, AN SSSR, Moscow (Institut obshchey i neorganicheskoy khimii im Kurnakova AN SSSR).
19. Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut).
20. All Union Scientific Research Institute of Physicotechnical and Electronic Measurements, Moscow (VNII fiziko-tekhnicheskikh i elektronnykh izmereniy).
23. Institute of Atomic Energy im Kurchatov, Moscow (Institut atomnoy energii im Kurchatova).
24. Moscow Higher Technical College im Bauman (Moskovskoye vyssheye tekhnicheskoye uchilishche im Baumana).
29. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
30. Leningrad Institute of Precision Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki).
34. Khar'kov State University (Khar'kovskiy GU).
37. Yerevan State University (Yerevanskiy GU).
39. Institute of Cybernetics, AN GruzSSR (Institut kibernetiki AN GruzSSR).
44. Institute of Applied Physics, AN MSSR, Kishinev (Institut prikladnoy fiziki AN MSSR).
49. Vilnius State University (Vil'nyusskiy GU).
51. Kiev State University (Kiyevskiy GU).
52. Joint Institute of Nuclear Research, Dubna (Ob"yedinennyy institut yadernykh issledovaniy).
53. Chernovtsy State University (Chernovitskiy GU).
59. Institute of Physics Research, AN ArmSSR (Institut fizicheskikh issledovaniy AN ArmSSR).
60. Institute of Physics, AN AzSSR (Institut fiziki AN AzSSR).

63. Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR).
66. Institute of Solid State Physics, AN SSSR (Institut fiziki tverdogo tela AN SSSR).
67. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
72. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
73. Institute of Theoretical Physics im Landau, AN SSSR (Institut teoreticheskoy fiziki AN SSSR).
74. Institute of High Temperatures, AN SSSR (Institut vysokikh temperatur AN SSSR).
75. Institute of Automation and Electronic Measurements, Siberian Branch, AN SSSR (Institut avtomatiki i elektrometrii SOAN).
78. Institute of Atmospheric Optics, Siberian Branch, AN SSSR (Institut optiki atmosfery SOAN).
84. Institute of Radiophysics and Electronics, AN UkrSSR (Institut radiofiziki i elektroniki AN UkrSSR).
85. Institute of Nuclear Physics, AN UzSSR (Institut yadernoy fiziki AN UzSSR).
86. Azerbaydzhan State University (Azerbaydzhanskiy GU).
87. Belorussian State University (Belorusskiy GU).
98. Institute of Nuclear Physics at Moscow State University (Institut yadernoy fiziki pri Moskovskom GU).
104. Kaunas Polytechnic Institute (Kaunasskiy politekhnicheskiy institut).
106. Kiev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut).
107. Khar'kov State Scientific Research Institute of Metrology (Khar'kovskiy gos NII metrologii).
109. Latvian State University (Latviyskiy GU).
110. Leningrad Electrotechnical Institute (Leningradskiy elektrotekhnicheskiy institut).
114. L'vov State University (L'vovskiy GU).
116. Moscow Aviation Institute (Moskovskiy aviatsionnyy institut).
118. Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut).
119. Moscow Institute of Electronic Engineering (Moskovskiy institut elektronnoy tekhniki).
120. Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography (Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii).
122. Scientific Research Institute of Physicochemistry im Karpov (NI fiziko-khimicheskiy institut im Karpova).
133. Central Aerohydrodynamic Institute im Zhukovskiy (Tsentral'nyy aerogidrodinamicheskiy institut im Zhukovskogo).
136. Uzhgorod State University (Uzhgorodskiy GU).
137. Voronezh State University (Voronezhskiy GU).
140. All Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements (VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy).
141. All Union Scientific Research Institute of Optophysical Measurements (VNII optiko-fizicheskikh izmereniy).
145. All Union Correspondence Electrotechnical Institute of Communications (Vsesoyuznyy zaochnyy elektrotekhnicheskiy institut svyazi).
152. Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov).
159. Institute of Thermophysics, Siberian Branch, AN SSSR, Novosibirsk (Institut teplofiziki SOAN).

161. Moscow Institute of Radio Engineering, Electronics and Automation (Moskovskiy institut radiotekhniki, elektroniki i avtomatiki).
162. Moscow State Pedagogical Institute (Moskovskiy gos pedagogicheskiy institut).
163. All Union Scientific Research Institute of Metrology im Mendeleyev (VNII metrologii im Mendeleyeva).
175. Arctic and Antarctic Scientific Research Institute, Leningrad (Arkticheskiy i antarkticheskiy NII).
176. Moscow Geological Prospecting Institut im Ordzhonikidze (Moskovskiy geologorazvedochnyy institut im Ordzhonikidze).
179. Moscow Institute of Fine Chemical Technology (Moskovskiy institut tonkoy khimicheskoy tekhnologii).
180. Institute of Heat and Mass Exchange, AN BSSR (Institut teplo- i massoobmena AN BSSR).
193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
194. All Union Scientific Research and Design Institute on Drainage of Mineral Deposit Sites, Special Mining Operations, Ore Geology, and Mining Surveying (VNI i proyektno konstruktorskiy institut po osusheniyu mestorozhdeniy poleznykh iskopayemykh, spetsial'nym gornym rabotam, rudnichnoy geologii i marksheyderskom delu).
200. Khar'kov, Aviation Institute (Khar'kovskiy aviatsionyy institut).
201. Institute for Problems of Information Transmission, AN SSSR, Moscow (Institut problem peredachi informatsii AN SSSR).
202. Institute of Electronics, AN UzSSR, Tashkent (Institut elektroniki AN UzSSR).
209. Moscow Institute of Precision Mechanics and Computer Technology (Moskovskiy institut tochnoy mekhaniki i vychislitel'noy tekhniki).
215. Physico-technical Institute, AN TadzhSSR (Fiziko-tekhnicheskiy institut AN TadzhSSR).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut).
240. Odessa State University (Odesskiy GU).
247. Scientific Research Institute of Electrophysical Equipment im Yefremov, Leningrad (NII elektrofizicheskoy apparatury im Yefremova).
251. Tomsk Institute of Automatic Control Systems and Radioelectronics (Tomskiy institut avtomatizirovannykh sistem upravleniya i radioelektroniki).
252. Leningrad Institute of Nuclear Physics, AN SSSR (Leningradskiy institut yadernoy fiziki AN SSSR).
276. Institute of Physics of the Earth im Shmidt, AN SSSR (Institut fiziki Zemli im Shmidta AN SSSR).
278. Samarkand State University (Samarkandskiy GU).
308. Moscow Institute of Railroad Transport Engineers (Moskovskiy institut inzhenerov zheleznodorozhnogo transporta).
314. Moscow Oncological Scientific Research Institute im Gertsen (Moskovskiy NI onkologicheskiy institut im Gertsena).
327. Novosibirsk Electrotechnical Institute (Novosibirskiy radioelektroniki institut).
334. Scientific Research Institute of Applied Physical Problems at Belorussian State University (NII prikladnykh fizicheskikh problem pri Belorusskom GU).

336. Scientific Research Institute of Nuclear Physics, Electronics and Automation at Tomsk Polytechnic Institute (NII yadernoy fiziki, elektroniki i avtomatiki pri Tomskom politekhnicheskom institute).
358. Institute of Problems of Strength, AN UkrSSR, Kiev (Institut problem prochnosti AN UkrSSR).
389. Yerevan Scientific Research Institute of Mathematics and Mechanics (Yerevanskiy NII matematiki i mekhaniki).
395. Scientific Research Institute of Introscopy (NII introskopii).
421. Institute of Physics of Metals, Ural Scientific Center, AN SSSR, Sverdlovsk (Institut fiziki metallov Ural'skogo nauchnogo tsentra AN SSSR).
424. Voroshilovgrad Mechanical Engineering Institute (Voroshilovgradskiy mashinostroitel'nyy institut).
426. Institute of applied Physics, AN SSSR, Gor'kiy (Institut prikladnoy fiziki AN SSSR).
445. All Union Scientific Research Institute of the Metrological Service, Moscow (VNII metrologicheskoy sluzhby).
465. Kuybyshev Aviation Institute (Kuybyshevskiy aviatsionnyy institut).
484. Buryat Institute of Natural Sciences, Buryat Branch, Siberian Branch, AN SSSR (Buryatskiy institut yestestvennykh nauk Buryatskogo filiala SOAN).
507. Institute of Solid State and Semiconductor Physics, AN BSSR, Minsk (Institut fiziki tverdogo tela i poluprovodnikov AN BSSR).
527. Institute of Catalysis, Siberian Branch, AN SSSR (Institut kataliza SOAN).
576. First Moscow Medical Institute im Sechenov (Pervyy Moskovskiy meditsinskiy institut im Sechenova).
577. Omsk State Medical Institute im Kalinin (Omskiy gos meditsinskiy institut im Kalinina).
580. Astronomical Observatory of the Odessa State University (Astronomicheskaya observatoriya Odesskogo GU).
581. Zaporozh'ye Industrial Institute (Zaporozhskiy industrial'nyy institut).
583. Astronomical Observatory of the Latvian State University (Astronomicheskaya observatoriya Latviyskogo GU).

VI. AUTHOR INDEX

R

S

T