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# Bibliography of Soviet Laser Developments

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 93

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20. ABSTRACT This is the Soviet Laser Bibliography for January-February 1988, and is No. 93 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 systems; beam propagation; adaptive optics; computer technology; holography; laser- induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics. <i>Keywords</i>		

## 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 January-February 1988, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Soviet Reference Journals (journals of abstracts) are also included. Laser items from the popular or semipopular press are generally omitted. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library.

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## I. BASIC RESEARCH

### A. SOLID STATE LASERS

#### 1. Crystal

##### a. Miscellaneous

1. Alpat'yev, A.N.; Zharikov, Ye.V.; Kalitin, S.P.; Noginov, M.A.; Ostroumov, V.G.; Saidov, Z.S.; Smirnov, V.A.; Umyskov, A.F.; Shcherbakov, I.A. (IOF). Chromium-containing yttrium scandium gallium garnets with Er, Tm and Ho ions: active media for lasers in the IR with improved efficiency. IANFA, no. 2, 1988, 342-347.
2. Alpat'yev, A.N.; Zharikov, Ye.V.; Kalitin, S.P.; Noginov, M.A.; Ostroumov, V.G.; Saidov, Z.S.; Smirnov, V.A.; Umyskov, A.F.; Shcherbakov, I.A. (IOF). Chromium-containing yttrium scandium gallium garnet crystals with Er<sup>3+</sup>, Tu<sup>3+</sup>, Ho<sup>3+</sup> ions: active media for improved efficiency lasers in the IR. IOF. Preprint, no. 207, 1987, 17 p. (RZFZA, 88/2L1142).
3. Andronas, K.; Barila, A.; Vishchakas, Yu.; Kabelka, V.; Mochalov, I.V.; Syrus, V. (). Using binary tungstate, molybdate and silicate oxyapatite crystals in passively mode-locked lasers. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 5-10. (RZFZA, 88/2L1149).
4. Angert, N.B.; Borodin, N.I.; Garmash, V.M.; Zhitnyuk, V.A.; Okhrimchuk, A.G.; Siyuchenko, O.G.; Shestakov, A.V. (). Lasing from impurity color centers in YAG crystals at 1.35-1.45  $\mu\text{m}$ . KVEKA, no. 1, 1988, 113-115.
5. Antipenko, B.M.; Glebov, A.S.; Kiseleva, T.I.; Pis'menny, V.A. (). Conversion of absorbed energy in YAG-Cr+Tm+Ho crystals. OPSPA, v. 64, no. 2, 1988, 373-377.
6. Ashurov, M.Kh.; Rustamov, I.R.; Smirnov, V.A.; Umyskov, A.F.; Shcherbakov, I.A. (IOF). Photoinduced losses in gadolinium scandium gallium garnet:Cr<sup>3+</sup>,Nd<sup>3+</sup> crystals. IOF. Preprint, no. 208, 1987, 1-22. (RZFZA, 88/2L1144).
7. Bagdasarov, Kh.S.; Danilov, V.P.; Kolerov, A.N.; Kalyago, S.S.; Murina, T.M.; Fedorov, Ye.A. (IOF). Giant pulses from Al(sub2)O(sub3):Ti<sup>3+</sup> crystal lasers. PZTFD, no. 4, 1988, 342-344.

8. Bakin, D.V.; Dorozhkin, L.M.; Krasilov, Yu.I.; Kuznetsov, N.T.; Shestakov, A.V. (). Wideband nonlinear tunable lasing from an Al(sub2)O(sub3)-Ti laser. OPSPA, v. 64, no. 1, 1988, 177-181.
9. Bartoshevich, S.G.; Skripko, G.A.; Urbanovich, V.S.; Shkadarevich, A.P. (). Spectral kinetic characteristics of chromium-containing tungstates. ZPSBA, v. 48, no. 1, 1988, 87-91.
10. Basiyev, T.T.; Vakhidov, F.A.; Zverev, P.G.; Ivanov, N.A.; Inshakov, D.F.; Karpushko, F.V.; Konyushkin, V.A.; Mirov, S.B.; Pak, V.G.; Papashvili, A.G.; Khulugurov, V.M. (IOF). Tunable lasing at 1.1-1.34 um from NaF crystals with color centers in the Maslan-201 laser system. KRSFA, no. 1, 1988, 18-20.
11. Bryukvina, L.I.; Khulugurov, V.M.; Parfianovich, I.A. (). Low-frequency vibrations at 800-1200 cm(sup-1) in gamma irradiated LiF and NaF crystals with hydroxyl ion impurities. ZPSBA, v. 48, no. 2, 1988, 322-324.
12. Denisov, A.L.; Zharikov, Ye.V.; Zagumenny, A.I.; Kalitin, S.P.; Noginov, M.A.; Ostroumov, V.G.; Prokhorov, A.M.; Smirnov, V.A.; Sorokina, I.T.; Shcherbakov, I.A. (IOF). Spectral luminescent properties of a new active medium: chromium- and neodymium-activated gadolinium scandium aluminum garnet crystal. IANFA, no. 2, 1988, 336-341.
13. D'yakonov, G.I.; Yegorov, G.N.; Zharikov, Ye.V.; Mikhaylov, V.A.; Pak, S.K.; Prokhorov, A.M.; Shcherbakov, I.A. (IOF). Yttrium scandium gallium garnet:Cr,Nd laser with an efficiency of 3.6 percent, linearly polarized radiation energy in a single pulse of 0.46 joules, and a pulse repetition rate of 50 hertz. KVEKA, no. 1, 1988, 67-69.
14. D'yakonov, G.I.; Yegorov, G.N.; Zharikov, Ye.V.; Mikhaylov, V.A.; Pak, S.K.; Prokhorov, A.M.; Shcherbakov, I.A. (IOF). Cr- and Nd-doped yttrium scandium gallium garnet laser with an efficiency of 3.6 percent, linearly-polarized single-pulse radiation at 0.46 joules, and 50 hertz pulse repetition rate. IOF. Preprint, no. 202, 1987, 1-8. (RZELD, 88/2D131).
15. Gintoft, R.I.; Zabaznov, A.M.; Paltarak, N.M.; Shkadarevich, A.P. (). Spectral luminescence and lasing characteristics of lanthanum magnesium hexaaluminate crystals activated by neodymium and chromium ions. ZPSBA, v. 48, no. 2, 1988, 233-237.

16. Voron'ko, Yu.K.; Gessen, S.B.; Yes'kov, N.A.; Osiko, V.V.; Sobol', A.A.; Timoshechkin, M.I.; Ushakov, S.N.; Tsybal, L.I. (IOF). Spectroscopic and lasing properties of calcium niobium gallium garnet with Cr<sup>3+</sup> and Nd<sup>3+</sup>. KVEKA, no. 2, 1988, 312-317.
  17. Voytovich, A.P.; Grinkevich, V.E.; Kalinov, V.S.; Kononov, V.A.; Mikhnov, S.A. (IFANB). Spectroscopic and lasing characteristics of sapphire crystals with color centers in the 1.0 um region. KVEKA, no. 2, 1988, 318-320.
  18. Zharikov, Ye.V.; Studenikin, P.A.; Chikov, V.A.; Shigorin, V.D.; Privis, Yu.S.; Shcherbakov, I.A. (IOF). Temperature measurements of refractive indexes of rare-earth gallium garnets. IOF. Preprint, no. 190, 1987, 1-15. (RZFZA, 88/2L306).
- b. Ruby
- c. LiF
19. Basiyev, T.T.; Dolzhenko, S.V.; Yershov, B.V.; Kravtsov, S.B.; Mirov, S.B.; Spiridonov, V.A.; Fedorov, V.B. (IOF). Optimizing the parameters of a LiF:F(sub2)(sup-) laser pumped by a neodymium laser. IANFA, no. 2, 1988, 400-402.
  20. Martynovich, Ye.F.; Barashnikov, V.I.; Grigorov, V.A.; Shchepina, L.I. (NIIPFI). Miniature laser elements using color centers with an extremely low lasing threshold. KVEKA, no. 1, 1988, 47-49.

## 2. Rare Earth

- a. Miscellaneous
- b. Nd<sup>3+</sup>
21. Butkus, K.; Ionushauskas, G.; Sinkyavichyus, G.; Sirutkaytis, V.; Yuozapavichyus, A. (). Study on various picosecond solid-state neodymium lasers and their use for pumping optical parametric oscillators. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 11-15. (RZFZA, 88/2L1148).
  22. Deringas, A.; Kabelka, V.; Milyauskas, A. (). Stable picosecond laser using a resonator with an antiresonance reflector. PZTFD, no. 1, 1988, 73-76.

23. Mak, A.A.; Muravitskiy, S.G.; Orlov, O.A.; Ustyugov, V.I. (). C-w YAG:Nd laser with frequency stabilization by the absorption lines of molecular cesium at 1.06  $\mu\text{m}$ . IANFA, no. 2, 1988, 273-275.
24. Pavlovskiy, V.N.; Lukashevich, P.G.; Samoylyukovich, V.A. (). Tunable picosecond neodymium yttrium aluminate laser. ZPSBA, v. 48, no. 2, 1988, 320-322.
25. Yefimkov, V.F.; Zubarev, I.G.; Sobolev, V.B. (FIAN). Measuring the contrast ratio in radiation from a neodymium laser with a wavefront reversing mirror in terms of an oscillator-amplifier schematic. KVEKA, no. 2, 1988, 272-275.
26. Zaslavskaya, V.R.; Korunnyi, V.N. (). Study on the dynamic operating mode of a YAG:Nd<sup>3+</sup> laser with a three-mirror resonator. IANFA, no. 2, 1988, 304-308.
27. Zolin, V.F.; Vetkina, S.N.; Markushev, V.M. (MIREA). Lanthanum oxotungstates and alkali earth elements: materials for neodymium powder lasers. KVEKA, no. 2, 1988, 321-324.

c. Er<sup>3+</sup>

28. Vadkovskaya, T.N.; Drozhbin, Yu.A.; Lobachev, V.A.; Murina, T.M.; Prokhorov, A.M.; Trofimenko, V.V. (IOF). Photographic recording of YAG:Er<sup>3+</sup> laser radiation at 2.94  $\mu\text{m}$  by sensitization of the photoemulsion. KVEKA, no. 1, 1988, 229-232.

d. Ho<sup>3+</sup>

29. Kaminskiy, A.A.; Kurbanov, K.; Petrosyan, A.G. (). Spectral composition and kinetics of 2  $\mu\text{m}$  stimulated emission from Ho<sup>3+</sup> ions in sensitized Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> and Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> crystals at 300 K. DANAA, no. 4, 1987, 169-173. (RZFZA, 88/2L1141).

e. Tm<sup>3+</sup>

### 3. Semiconductor

a. Theory

30. Gulyayev, Yu.V.; Durayev, V.P.; Mazur, A.V.; Morshnev, S.K.; Ryabov, A.S.; Frantsesson, A.V. (IRE). Assymmetric radiation spectrum of injection lasers with external optical feedback. KVEKA, no. 2, 1988, 247-252.

31. Korolev, V.N.; Marugin, A.V.; Kharchev, A.V. (GGU). Study on fluctuations in radiation from semiconductor lasers with an external resonator. VINITI. Deposit, no. 6567-V87, 8 Sep 1987, 70-77. (RZFZA, 88/1L1151).
32. Marugin, A.V.; Kharchev, A.V. (GGU). Modulation characteristics of semiconductor injection lasers. VINITI. Deposit, no. 6567-V87, 8 Sep 1987, 63-69. (RZFZA, 88/1L1126).
33. Sherstnev, V.A.; Kuz'min, A.N.; Ryabtsev, G.I. (). Thermoelastic stresses in a laser-diode/cold-conductor system. VBSFA, no. not given, 1987, 75-80. (RZFZA, 88/2L1218).
34. Tomm, J.W.; Sumpf, B.; Herrmann, K.; Shcherbakov, A. (). Some aspects of the technology of lead salt diode lasers used in gas monitoring systems (in English). CRTED, no. 7, 1987, 981-986. (RZFZA, 88/1L1102).
35. Vavilov, V.S.; Klyukanov, A.A.; Senokosov, E.A.; Chibotaru, L.E.; Chukichev, M.V. (KiGU). Multiplasma optical transitions in a degenerate electron-hole plasma in direct-gap semiconductors. FTVTA, no. 2, 1988, 614-617.
36. Vorob'yev, L.Ye.; Danilov, S.N.; Stafeyev, V.I. (LPI). Power of stimulated emission from hot holes in p-Ge in crossed E and H fields. FTTPA, no. 9, 1987, 1707-1710.
37. Vorob'yev, L.Ye.; Danilov, S.N.; Stafeyev, V.I.; Tulupenko, V.N. (LPI). Mechanism of interband population inversion of hot-hole states in germanium in crossed E and H fields. FTTPA, no. 9, 1987, 1600-1605.

b. Miscellaneous Homojunction

c. Miscellaneous Heterojunction

38. Alferov, Zh.I.; Andreyev, V.M.; Konnikov, S.G.; Larionov, V.R.; Pogrbitskiy, K.Yu.; Faleyev, N.N.; Khvostikov, V.P. (FTI). Liquid-phase AlGaAs structures with quantum well layers of a thickness up to 20 angstroms. PZTFD, no. 2, 1988, 171-176.
39. Bergmann, Ya.V.; Virro, A.L.; Lyuk, P.A.; Fridental, Ya.K. (). AlGaAsSb injection lasers at 1.6  $\mu\text{m}$ . Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 69-71. (RZFZA, 88/1L1116).

40. Morozov, V.N.; Nabiyeu, R.F.; Popov, Yu.M.; Shidlovskiy, V.R. (FIAN). Lasing linewidth of injection lasers in a quasi-single-frequency operating mode. KVEKA, no. 1, 1988, 203-207.
41. Polyakov, M.Ye. (IFANB). Mechanical stresses in heterolasers with superlattice structures. IFANB. Preprint, no. 485, 1987, 1-37. (RZFZA, 88/2L1221).
42. Vaytekunas, F.; Kurshyalis, S. (VilGU). Microwave impedances in double heterostructure lasers. LFSBA, no. 1, 1988, 95-96.
43. Vinogradov, I.P.; Logginov, A.S.; Pak, G.T.; Rzhhanov, A.G.; Senatorov, K.Ya. (). Transition processes in two-element double-heterojunction injection lasers. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 19-20. (RZELD, 88/1D98).
44. Vinogradov, I.P.; Logginov, A.S.; Pak, G.T.; Petrakova, T.V.; Senatorov, K.Ya. (). Experimental study on the radiation dynamics of heterojunction lasers with a Y-shaped waveguide. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 20-22. (RZFZA, 88/1L1129).
45. Vinogradov, I.P.; Logginov, A.S.; Petrakova, T.V.; Senatorov, K.Ya. (). Experimental study on the radiation dynamics of multielement heterojunction injection lasers. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 22-24. (RZFZA, 88/1L1130).
46. Virro, A.L.; Aarik, Ya.A.; Lyuk, P.A.; Fridental, Ya.K. (). Optical amplification in AlGaAsSb/GaSb lasers. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 71-74. (RZELD, 88/1D95).
47. Virro, A.L.; Gerst, A.V.; Niylik, A.I.; Rozental', A.I.; Fridental, Ya.K. (). Effect of hydrostatic pressure on the threshold current in AlGaAsSb lasers. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 79-81. (RZFZA, 88/1L1115).
48. Zhukov, N.D.; Mikayelyan, G.T.; Rabinovich, E.M.; Tuchin, V.V. (SGU). Spatially modulated characteristics of radiation from flat planar heterolasers. PZTFD, no. 4, 1988, 364-468.

d. GaAs

49. Lavrushin, B.M.; Nabiyeu, R.F.; Popov, Yu.M. (FIAN). Effect of doping on the threshold characteristics of GaAs lasers. KVEKA, no. 1, 1988, 78-84.



e. CdS

f. ZnSe

50. Zhulay, V. Ya.; Ivanova, T. Yu.; Kostin, N. N.; Krasavina, Ye. M.; Kryukova, I. V.; Novozhilov, V. A.; Petrovskiy, G. T. (). Efficient zinc selenide laser at 300 K. PZTFD, no. 2, 1988, 104-107.

g. Pb(1-x)Sn(x)Te

h. InGaAsP

51. Akhmedov, D.; Ismailov, I.; Shokhudzhayev, N. (FTIANTadzh). Service life characteristics of heterolasers in the shortwave range using InGaAsP/InP heterostructures. KVEKA, no. 2, 1988, 283-285.
52. Bogatov, A. P.; Yeliseyev, P. G.; Makhsudov, B. I. (FIAN). Effect of temperature on the directional pattern of InGaAsP heterolasers. KVEKA, no. 2, 1988, 253-258.
53. Garbuzov, D. Z.; Zaytsev, S. V.; Kolyshkin, V. I.; Kulagina, M. M.; Mokina, I. A.; Nivin, A. B.; Ovchinnikov, A. V.; Tarasov, I. S. (FTI). Buried c-w separately limited InGaAsP/InP lasers at 1.3  $\mu\text{m}$  where impedance = 360  $\text{A}/\text{cm}(\text{sup}2)$ , power = 360 milliwatts, and temperature = 18 C. PZTFD, no. 2, 1988, 99-104.
54. Garbuzov, D. Z.; Zaytsev, S. V.; Kolyshkin, V. I.; Nalet, T. A.; Ovchinnikov, A. V.; Tarasov, I. S. (FTI). Mesa-band InGaAsP/InP quantum-well separately limited lasers at 1.3  $\mu\text{m}$  where impedance = 380  $\text{A}/\text{cm}(\text{sup}2)$ , power = 0.5 watts, and temperature = 18 C. PZTFD, no. 3, 1988, 241-246.
55. Kizhayev, K. Yu.; Kuksenkov, D. V.; Kuchinskiy, V. I.; Nikishin, S. A.; Portnoy, Ye. L.; Smirnitskiy, V. B. (FTI). Lasing in InGaAsP/InP distributed-feedback lasers with strong detuning. PZTFD, no. 3, 1988, 267-273.
56. Yeliseyev, P. G.; Lyk Vu Van; Man'ko, M. A.; Tsotsoriya, M. V. (FIAN). Electric response in InGaAsP/InP lasers to external feedback. FIAN. Preprint, no. 172, 1987, 1-24. (RZFZA, 88/2L1223).

#### 4. Glass

a. Miscellaneous

57. Lunter, S. G.; Mit'kin, V. M.; Tolstoy, M. N.; Fedorov, Yu. K. (). Trends in the development of modern laser glasses. IANFA, no. 2, 1988, 266-272.

b. Nd

58. Basiyev, T.T.; Denker, B.I.; Il'ichev, N.N.; Larikov, A.V.; Malyutin, A.A.; Osiko, V.V.; Pashinin, P.P. (IOF). Compact neodymium glass laser system. IANFA, no. 2, 1988, 348-353.
59. Bespalov, V.G.; Krylov, V.N.; Parfenov, V.A.; Sizov, V.N.; Stasel'ko, D.I. (). Coherence of radiation from neodymium glass lasers with a stimulated Brillouin scattering mirror in the amplifier. IANFA, no. 2, 1988, 290-293.
60. Grodzinskaya, M.D.; Peshko, I.I.; Khizhnyak, A.I. (IFANUK). Controlling the duration of free lasing peaks in neodymium glass lasers. UFIZA, no. 2, 1988, 229-231.
61. Lupkovics, G. (). New pulsed neodymium phosphate glass laser and practical research on it at the laser development laboratory of Magyar Optikai Muvek (Hungarian Optical Works)(in Hungarian). FNMKA, no. 5, 1987, 130-132, 159, 160, 3. (RZELD, 88/1D80).
62. Pivinskiy, Ye.G.; Prilezhayev, D.S. (). Using a microporous glass switch impregnated by dye solution in an ultrashort pulse neodymium glass laser. OPSPA, v. 64, no. 1, 1988, 213-215.

c. Er

63. Kadaner, G.I.; Kubaldin, E.V.; Fedorov, Yu.K. (). Ytterbium erbium glass laser for photometric systems. PRTEA, no. 1, 1988, 178-180.

B. LIQUID LASERS

1. Organic Dyes

a. Miscellaneous

64. Alekseyeva, V.I.; Butakov, A.L.; Konin, V.N.; Lazareva, T.V.; Mirza, S.Yu.; Savvina, L.P.; Sukhanov, V.B. (). Study on the lasing characteristics of organic dyes in the yellow-red pumped by copper vapor laser radiation. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 99-114.
65. Anufrik, S.S.; Kartazayeva, S.A.; Mikitchuk, Yu.D.; Shevtsov, A.S. (). Tunable dye lasers with flashlamp pumping. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 31-33. (RZELD, 88/1D109).

66. Barikhin, B.A.; Dudarevich, A.L.; Nedolugov, V.I. (). Dynamics of optical distortions in liquid active media. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. materialy. Minsk, 1987, 52-55. (RZFZA, 88/2L1114).
67. Barkovskiy, K.P.; Ivanov, A.Yu.; Naruta, V.Ye.; Petukhov, A.G.; Ral'chenko, V.I.; Chernomordin, A.I. (). Dye laser with diffraction divergence. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 47-51. (RZELD, 88/1D61).
68. Bunkin, F.V.; Davydov, M.A.; Kozhevnikova, I.N.; Lyakhov, G.A.; Shipilov, K.F. (IOF). Distributed feedback laser, allowing for stimulated scattering. IANFA, no. 2, 1988, 407-409.
69. Davydov, S.V.; Smelyy, L.N. (). Flashlamp-pumped UV dye laser. ZPSBA, v. 48, no. 2, 1988, 204-208.
70. Dzyubenko, M.I.; Naumenko, I.G.; Pelipenko, V.P. (). Flashlamp-pumped multistage dye laser. KVELA, no. 32, 1987, 13-25. (RZFZA, 88/1L1084).
71. Il'chishin, I.P.; Tikhonov, Ye.A.; Shpak, M.T. (IFANUK). Spatial distribution of lasing in distributed feedback lasers using cholesteric liquid crystals. UFIZA, no. 1, 1988, 10-16.
72. Korobov, A.M.; Nikolayev, S.V. (). High-power wideband dye laser excited by hollow lamps. KVELA, no. 32, 1987, 32-33. (RZFZA, 88/1L1086).
73. Nikolayev, S.V.; Korobov, A.M. (). Study on the dependence of the lasing characteristics of flashlamp-pumped dye lasers, on the length of the active element. KVELA, no. 32, 1987, 25-32. (RZFZA, 88/1L1085).
74. Pascu, M.L.; Pascu, A.; Dumbraveanu, G.; Vasile, A.; Cristu, D.; Munteanu, M. (). Tunable dye lasers in the visible and ultraviolet and their spectroscopic applications (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 129-154. (RZFZA, 88/2L1113).
75. Volegova, E.G.; Gruzinskiy, V.V.; Davydov, S.V.; Smelyy, L.N. (). Lasing in organic compound solutions under flashlamp pumping of short duration. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 24-26. (RZELD, 88/1D67).

- b. Rhodamine
- c. Polymethine
- d. Coumarin
- e. Phthalimide
- f. Cyanine
- g. Xanthene
- h. POPOP

## 2. Inorganic Liquids

### C. GAS LASERS

#### 1. Theory

- 76. Arslanbekov, T.U.; Derzhiyev, V.I.; Zhidkov, A.G.; Koval', A.V.; Yurovskiy, V.A.; Yakovlenko, S.I. (IOF). Numerical analysis of the characteristics of Ar-Kr-F(sub2) active media. IOF. Preprint, no. 199, 1987, 2-23. (RZFZA, 88/2L1091).
- 77. Bakayev, D.S.; Yermachenko, V.M.; Kurochkin, V.Yu.; Petrovskiy, V.N.; Protsenko, Ye.D.; Rurukin, A.N.; Shanin, R.A. (MIFI). Establishment of two-mode regeneration in gas lasers. KVEKA, no. 1, 1988, 37-46.
- 78. Barkalov, A.D.; Kolesnikov, Yu.A.; Kotov, A.A. (). Using an electron sensor to measure the electron concentration of weakly ionized laser media. TVYTA, no. 2, 1988, 342-348.
- 79. Bogdanov, A.V.; Gorbachev, Yu.Ye.; Stankus, N.V. (IOF). Semianalytical method to study the kinetics of rotational nonequilibrium flows in jets and nozzles. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 121-131.
- 80. Dem'yanov, A.V.; Dyatko, N.A.; Kochetov, I.V.; Napartovich, A.P.; Pal', A.F.; Pichugin, V.V.; Starostin, A.N. (). Non-self-sustained discharge in a H(sub2)-He mixture. ZTEFA, no. 1, 1988, 75-79.
- 81. Donin, V.I.; Shapiro, D.A.; Yakovin, D.V.; Yatsenko, A.S. (IAESOAN). Ion sonic vibrations in an ion laser plasma. ZTEFA, no. 1, 1988, 80-87.

82. Fayzulayev, V.N. (IOF). Quasi-steady-state approximation in the vibrational kinetics of anharmonic oscillators. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 53-64.
83. Konyukhov, V.K. (IOF). Group theory aspect of the quantum theory of rotational motion of polyatomic molecules. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 110-121.
84. Murav'yev, I.I.; Chernikova, Ye.V.; Yancharina, A.M. (). Quasi-steady-state lasing at 585.3 nm in Ne in Ne-H(sub2) mixtures excited by a preionized longitudinal discharge. VINITI. Deposit, no. 7305-V87, 15 Oct 1987, 14 p. (RZFZA, 88/1L1027).
85. Ochkin, V.N. (). Waveguide gas lasers. Novoye v zhizni, nauke, tekhnike. Seriya Fizika, no. 1, 1988, Moskva, Znaniye, 64 p.
86. Orayevskiy, A.N.; Protsenko, I.Ye. (FIAN). Explosive absorption in an intracavity cell. IANFA, no. 2, 1988, 239-244.
87. Samusenko, A.M. (IFANB). Population inversion at vibrational levels in a quasi-steady-state mode in the presence of collisions of vibrationally excited diatomic molecules. IFANB. Preprint, no. 480, 1987, 1-48. (RZFZA, 88/2I104).
88. Svirina, L.P.; Severikov, V.N. (). Transient equations of lasing in anisotropic ring gas lasers. OPSPA, v. 64, no. 1, 1988, 208-210.
89. Timofeyev, V.I. (). Theory of two-mode ring lasers with controlled phase anisotropy. OPSPA, v. 64, no. 2, 1988, 467.
90. Timofeyev, V.I. (). Theory of polarization nonmutuality of two-mode ring lasers in longitudinal magnetic fields. OPSPA, v. 64, no. 2, 1988, 467.

## 2. Simple Mixtures

### a. Miscellaneous

### b. He-Ne

91. Anishchenko, M.L.; Yermachenko, V.M.; Naumov, N.V.; Petrovskiy, V.N.; Protsenko, Ye.D. (MIFI). Effect of combination tones on the radiation intensity of a two-mode gas laser. KVEKA, no. 1, 1988, 55-57.

92. Bondarchuk, Ya.M.; Burnashev, M.N.; Krylkov, P.S.; Leont'yev, V.G.; Privalov, V.Ye.; Tkachenko, L.P. (). He-Ne/(sup127)I(sub2) lasers with selective mirrors. OPSPA, v. 64, no. 1, 1988, 228-229.
93. Burnashev, M.N.; Privalov, V.Ye.; Tkachenko, L.P. (). Unification of gas-discharge lasers for metrology. IZTEA, no. 2, 1988, 20-23.
94. Gudelev, V.G.; Izmaylov, A.Ch.; Yasinskiy, V.M. (IFANB; IFANaz). Two-frequency gas laser in mutually orthogonal transverse magnetic fields. KVEKA, no. 2, 1988, 263-271.
95. Gudelev, V.G.; Izmaylov, A.Ch.; Yasinskiy, V.M. (). Dependence of the characteristics of a two-frequency laser on the isotopic composition of the active medium in a magnetic field. ZPSBA, v. 48, no. 1, 1988, 45-50.
96. Petru, F.; Vesela, Z. (). Some properties of new single-frequency stabilized He-Ne lasers (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 531-537. (RZFZA, 88/2L1070).
97. Zykova, Ye.V.; Kucherenko, Ye.T. (KGU). Study on film and monolithic aluminum cathodes in active elements of helium-neon lasers. KGU. Vestnik. Fizika, no. 28, 1987, 100-103. (RZFZA, 88/2L1073).

c. He-Xe

d. He-Kr

e. Ar-Xe

### 3. Molecular Beam and Ion

a. Miscellaneous

b. Carbon Dioxide

98. Arshinov, K.I.; Leshenyuk, N.S.; Ostrovskiy, L.N. (VOIFFTP). Optimizing the radiation parameters of the model-143 periodic pulsed CO<sub>2</sub> laser. KVEKA, no. 1, 1988, 53-55.
99. Atanasov, P.A.; Brunzalov, P.P.; Iotov, I.N.; Karlova, Ye.K.; Kovalev, I.O.; Kuz'min, G.P.; Nesterenko, A.A. (FIAN). Study on the efficiency of preionization by plasma electrodes in CO<sub>2</sub> lasers. KRSFA, no. 7, 1987, 27-29. (RZFZA, 88/1L1039).

100. Aver'yanov, V.P.; Gavrilova, T.V.; Danilov, O.B.; Zinchenko, M.I.; Rityn', Ye.N.; Rubinov, Yu.A.; Slobodskaya, P.V.; Sosnov, Ye.N. (). C-w waveguide CO2 lasers with diffuse cooling of the active medium. IANFA, no. 2, 1988, 286-289.
101. Bakhir, L.L.; Yelov, V.V.; Kiselev, O.M.; Levashenko, G.I.; Tamanovich, V.V.; Shel'pyakov, V.Yu.; Shuralev, S.I. (IFANB). Study on the energy parameters of the active medium of electric-discharge CO2 lasers with a closed circuit in terms of absorption and radiation in CO2 at 4.3  $\mu$ m. KVEKA, no. 1, 1988, 91-100.
102. Osipov, V.V.; Tel'nov, V.A.; Khamidulin, G.M. (IFM). Compact periodic pulsed sealed-off CO2 laser. PRTEA, no. 1, 1988, 181-182.
103. Stanco, J.; Antropik, E.; Grodecki, P.; Irczuk, M.; Konefal, J.; Kozyro, P.; Kukiello, P.; Mikienko, W.; Piskulski, M.; Rabczuk, G.; Rozkwitalski, Z.; Stelter, T.; Sliwinski, G.; Werdon, R.; Zaremba, R. (). High-power fast-flow CO2 laser facility (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 551-555. (RZFZA, 88/2L1082).
104. Suhail, A.M.; Kimmitt, M.F. (). Dependence of the laser output energy on the initial electron density in e-beam pumped TEA CO2 lasers (in English). APHUE, no. 3-4, 1987, 349-353. (RZFZA, 88/2L1083).
105. Urbankova, H. (). Quartz CO2 waveguide laser with a separated diffraction grating (in English). CZYPA, v. B37, no. 8, 1987, 911-918. (RZELD, 88/1D34).

c. Carbon Monoxide

106. Gutin, M.A.; Kol'chenko, A.P. (IAESOAN). Observation of mutual amplification of lasing lines in CO lasers. KVEKA, no. 1, 1988, 58-61.
107. Kovsh, I.B.; Mikulin, Ye.I.; Potapov, V.N. (MVTU). Efficient methods for cooling electric-discharge CO lasers. ZTEFA, no. 2, 1988, 343-349.

d. Noble Gas

108. Boyko, S.A.; Popov, A.I. (MIFI). Lasing power and amplification at the 5.4  $\mu$ m laser transition in pure neon. KVEKA, no. 1, 1988, 115-117.

109. Derzhiyev, V.I.; Zhidkov, A.G.; Koval', A.V.; Skakun, V.S.; Tarasenko, V.F.; Fedenev, A.V.; Fomin, Ye.A.; Yakovlenko, S.I. (IOF). Neon Penning plasma laser pumped by a small-scale accelerator. KVEKA, no. 1, 1988, 108-111.

e. Nitrogen

110. Santa, I.; Nemet, B.; Szatmari, S.; Racz, B.; Szabo, G. (). Nitrogen pulsed laser system. Patent Hungary, no. 183531, 15 Oct 1986. (RZELD, 88/1D38).
111. Sok Ban Khe; Lyashenko, V.I.; Sodnomyn, E.; Tudor, T.; Vu Chan An'; Shcherbakov, Yu.A. (OIYaI). Improving the efficiency of nitrogen lasers. OIYaI. Preprint, no. 13-87-415, 1987, 1-7. (RZFZA, 88/2L1089).
112. Vaulin, V.A.; Slinko, V.N.; Sulakshin, S.S. (NIIYaFT). Nitrogen laser excited by microwave pulses. KVEKA, no. 1, 1988, 61-62.
113. Zlobin, V.V.; Kuzovnikov, A.A.; Shibkov, V.M. (MGU). Electron concentration in stimulated microwave discharge channels in nitrogen. VMUFA, no. 1, 1988, 89-91.

f. Iodine

g. Hydrogen

h. Ammonia

i. Carbon Tetrafluoride

j. Nitrous Oxide

k. Water Vapor

l. Heavy-Water Vapor

114. Konyukhov, V.K.; Prokhorov, A.M.; Tikhonov, V.I.; Fayzulayev, V.N. (IOF). Effect of rotational selectivity in heterogeneous condensation of heavy-water vapor. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 100-110.
115. Tikhonov, V.I. (IOF). Rotational nonequilibrium processes in water vapor and heavy-water vapor under supersonic flow conditions. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 65-100.



m. Submillimeter

116. Baskakov, O.I.; Alekseyev, Ye.A.; Dyubko, S.F.; Shevyrev, A.S. (). Submillimeter rotational transitions of the D(sub2)CO molecule. OPSPA, v. 64, no. 1, 1988, 217-218.
117. Gerasimov, V.G. (KhGU). Optically pumped submillimeter Stark laser using phosphine molecules. KVEKA, no. 1, 1988, 63-66.
118. Kamenev, Yu. Ye.; Kuleshov, Ye.M. (IRFEANUk). Two-frequency lasing with orthogonal polarizations in HCN lasers. KVEKA, no. 1, 1988, 236-238.

n. Metal Vapor

119. Bukshpun, L.M.; Latush, Ye.L. (RGU). Mathematical modeling of gas-discharge recombination strontium-helium lasers. VINITI. Deposit, no. 6298-V87, 27 Aug 1987, 38 p. (RZFZA, 88/1L1029).
120. Derzhiyev, V.I.; Zhidkov, A.G.; Karelin, A.V.; Nagornyy, D. Yu.; Skakun, V.S.; Tarasenko, V.F.; Fedenev, A.F.; Yakovlenko, S.I. (IOF). He-Cd laser at 422 and 538 nm pumped by a nanosecond electron beam. PZTFD, no. 1, 1988, 18-21.
121. Galkin, A.F.; Klimovskiy, I.I. (IVTAN). Effect of radial inhomogeneities in the plasma, on the lasing characteristics of a periodic pulsed copper vapor laser with a longitudinal discharge. IVTAN. Preprint, no. 5-220, 1987, 1-40. (RZFZA, 88/1G508).
122. Yelayev, V.F.; Mirza, S. Yu.; Sukhanov, V.B.; Troitskiy, V.O.; Filonov, A.G. (). Study on copper, gold and lead vapor lasers with unstable resonators. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 92-99.
123. Zeylikovich, I.S.; Pul'kin, S.A.; Gayda, L.S. (GrodGU). Lasing in barium vapor in a resonant light field. KVEKA, no. 2, 1988, 259-262.

o. Gasdynamic

124. Britan, A.B.; Grin', Yu.I.; Golub, V.V.; Orayevskiy, I.A.; Testov, V.G.; Khmelevskiy, A.N. (). Study on the effect of outflow conditions on the characteristics of N(sub2)O gasdynamic lasers. FGVZA, no. 1, 1988, 61-65.

125. Cenian, A. (). Theoretical model in the optimization of coupled-mode gasdynamic lasers (in Polish). Zeszyty naukowe Instytutu maszyn przeplywowych. PAN Gdansku. Studiumy i materialy, no. 233, 1986, 1-161. (RZELD, 88/1D21).
126. Fayzulayev, V.N. (IOF). Kinetics of heterogeneous processes in gasdynamic lasers. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 3-41.
127. Kulikov, S.V.; Skrebkov, O.V. (IKhF). Effect of the height of the critical cross-section of a jet nozzle, on the characteristics of the gas flow of a reacting  $N_2O+CO+He$  mixture. KHFID, no. 2, 1988, 251-262.
128. Logvinenko, V.P. (IOF). Laser using coupled modes of the  $CO_2$  molecule. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 41-53.

#### 4. Excimer

129. Adkhamov, A.N.; Azimdzhanov, B.A.; Arslanbekov, T.U.; Mikhaylov, V.I.; Obichkin, A.N.; Ternovskiy, I.M.; Chekalin, V.Ye. (). Effect of hydrogen on the characteristics of excimer  $XeCl^*$  lasers. KVEKA, no. 1, 1988, 112-113.
130. Apanasevich, P.A.; Bokhonov, A.F.; Burakov, V.S.; Grabchikov, A.S.; Orlovich, V.A.; Titarchuk, V.A. (). Conversion of wideband  $XeCl$  laser radiation by stimulated Raman scattering in compressed hydrogen. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 60-64. (RZELD, 88/1D42).
131. Datsyuk, V.V.; Izmaylov, I.A.; Kochelap, V.A. (IPANUK). Effect of vibrational relaxation on the quantum yield of lasing from  $KrF$  excimer lasers. KVEKA, no. 1, 1988, 106-108.
132. Derzhiyev, V.I.; Zhidkov, A.G.; Sereda, O.V.; Yakovlenko, S.I. (IOF). Possibility of efficient traveling-wave lasing in  $KrF^*$ . IOF. Preprint, no. 210, 1987, 1-26. (RZFZA, 88/2L1092).
133. Derzhiyev, V.I.; Zhidkov, A.G.; Sereda, O.V.; Yakovlenko, S.I. (IOF). Model of a laser using the photodissociative transition of the  $NeF^*$  exciplex at 108 nm. KRSFA, no. 1, 1988, 38-40.

134. Gordon, Ye.B.; Yegorov, V.G.; Mikhkel'soo, V.T.; Nalivayko, S.Ye.; Pavlenko, V.S.; Peet, V.E.; Treshchalov, A.B. (IKhF). Harpoon channel in the formation of excimer molecules in electric-discharge XeCl lasers. KVEKA, no. 2, 1988, 285-288.
135. Klementov, A.D.; Morozov, N.V.; Sergeyev, P.B. (FIAN). Operation of an e-beam KrF laser at high specific powers and excitation energies. KVEKA, no. 2, 1988, 276-282.
136. Korniyenko, N.Ye.; Sidenko, T.S.; Fedorchenko, A.M.; Komarov, O.V. (KGU). Existence of a quasi-steady-state discharge mode in excimer lasers. UFIZA, no. 1, 1988, 28-35.
137. Slinko, V.N.; Sulakshin, A.S.; Sulakshin, S.S. (NIIYaFT). Efficient lasing in XeCl lasers with microwave pumping. KVEKA, no. 2, 1988, 292-294.

#### 5. Dye Vapor

138. Gruzinskiy, V.V.; Davydov, S.V.; Kulak, I.I. (). Study on the radiation characteristics of gases and organic compound vapors under short-duration longitudinal e-beam excitation. Lazery i opticheskaya nelineynost'. CBLSLONe, 7th Grodno, 1985. Materialy. Minsk, 1987, 27-30. (RZFZA, 88/2L1107).

### D. CHEMICAL LASERS

#### 1. Miscellaneous

139. Bashkin, A.S.; Podmar'kov, Yu.P.; Porodnikov, O.Ye.; Romanovskiy, A.B. (FIAN). C-w purely chemical OH(OD)-CO<sub>2</sub> laser. KHFID, no. 2, 1988, 246-250.
140. Bashkin, A.S.; Romanovskiy, A.B. (FIAN). Absorption method to measure atomic hydrogen concentration, applicable to chemical lasers. KHFID, no. 1, 1988, 119-122.
141. Dudkin, V.A.; Rukhin, V.B.; Solov'yev, V.A. (). Effect of nitrous oxide on the spectral characteristics of chemical CO lasers. ZPSBA, v. 48, no. 1, 1988, 50-54.

#### 2. Fluorine + Hydrogen (Deuterium)

142. Velikanov, S.D.; Zapol'skiy, A.F.; Sinitsyn, M.V. (). Chemical electric-discharge HF laser with an industrial-grade efficiency of over 100 percent. IANFA, no. 2, 1988, 318-321.

### 3. Photodissociation

143. Bessarab, A.V.; Dolgoplov, Yu.V.; Zhidkov, N.V.; Kirillov, G.A.; Kochemasov, G.G.; Kulikov, S.M.; Murugov, V.M.; Nikolayev, V.D.; Pevnyy, S.N.; Ryadov, A.V.; Smirnov, A.B.; Smyshlyayev, S.P.; Sukharev, S.A. (). Photodissociation laser with wavefront reversal for research in laser fusion. IANFA, no. 2, 1988, 333-335.
144. Dudov, A.M.; Kirillov, G.A.; Kulikov, S.M.; Nikolayev, V.D.; Portnyagin, V.V.; Sukharev, S.A. (). Single-mode photodissociation laser with modulation of gain by a magnetic field of flashlamps. IANFA, no. 2, 1988, 327-332.

### 4. Transfer

#### 5. Oxygen + Iodine

145. Basov, N.G.; Kryukov, P.G.; Yuryshv, N.N. (). Pulse repetition operation regime of a chemical oxygen-iodine laser (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 23-28. (RZFZA, 88/2L1099).
146. Grigor'yev, F.V.; Goryachev, L.V.; Kalinovskiy, V.V.; Lavrov, L.M. (). Experimental study on the operation of iodine-oxygen lasers. IANFA, no. 2, 1988, 316-317.
147. Zagidullin, M.V.; Igoshin, V.I.; Pichugin, S.Yu. (FIANKuy). Theoretical analysis of the kinetics of a laser using a mixture of  $O_2$  and an iodine aerosol. KVEKA, no. 1, 1988, 70-77.

## E. COMPONENTS

### 1. Miscellaneous

#### 2. Resonators

##### a. Design and Performance

148. Anan'yev, Yu.A.; Bekshayev, A.Ya. (). More on "super-resolution" in optics. OPSPA, v. 64, no. 1, 1988, 232-235.
149. Korobkin, V.V.; Marchenko, V.G. (IOF). Fields of wide-aperture optical resonators. General problems. IOF. Preprint, no. 155, 1987, 3-58. (RZFZA, 88/2L1249).

150. Kravchenko, V.I.; Parkhomenko, Yu.N.; Sokolov, V.A. (IFANUk). Selectivity of dispersion resonators with an inhomogeneous aperture. KVEKA, no. 1, 1988, 85-90.
151. Virnik, Ya.Z.; Gerasimov, V.B.; Kudryavkin, Ye.V.; Treyvish, Yu.M. (). Controlling the parameters of optical resonators by a built-in telescopic system. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 39-42. (RZFZA, 88/2L1254).

b. Mode Kinetics

152. Anan'yev, Yu.A.; Anikichev, S.G. (). Criterion of single-mode lasing in stable resonators. OPSPA, v. 64, no. 2, 1988, 390-396.
153. Bekshayev, A.Ya.; Grimblatov, V.M. (). Modes of an astigmatic resonator with a lens-like medium. OPSPA, v. 64, no. 1, 1988, 170-176.
154. Salomaa, R.; Dupertuis, M.A.; Siegrist, M.R. (). Line competition in optically pumped lasers (in English). Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 635-643. (RZELD, 88/1D23).
155. Virnik, Ya.Z.; Gerasimov, V.B.; Kudryavkin, Ye.V.; Sivakov, A.L.; Treyvish, Yu.M. (). Forming of fields in resonators with retroreflector mirrors. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 43-46. (RZELD, 88/1D127).
156. Vitrishchak, I.B.; Orlov, S.Yu.; Pokrovskiy, V.P.; Soms, L.N. (). Eigenmodes in a coupled resonator with a matrix controlled transparency. KVEKA, no. 1, 1988, 177-179.

3. Pump Sources

157. Buchenkov, V.A.; Vinokurov, G.N.; Malinin, B.G.; Fromzel', V.A.; Shumplin, V.V. (). Study on the storage and release of energy in lasers with various active elements. IANFA, no. 2, 1988, 281-285.
158. Kieburg, H.W. (). Study on the efficiency of actual elliptical pumping chambers for solid-state lasers (in German). EXPPA, no. 3, 1987, 171-180. (RZFZA, 88/1L694).

159. Kirpach,A.B.; Lukashenko,S.V.; Martirosov,V.A. (). Study on gas-discharge light sources to optimize the photoinitiation of laboratory pulsed chemical lasers. Nauchnoye priborostroyeniye. Leningrad, 1987, 55-64. (RZFZA, 88/2L680).
160. Lebedev,Ye.A.; Markov,V.I.; Chesnokov,A.G. (GOI). Power supply for semiconductor LED's and laser diodes to stabilize the power of self-radiation from the source. OPMPA, no. 2, 1988, 58-59.
161. Rayevskiy,I.P.; Prokopalo,O.I. (). Semiconductor ferroelectrics: properties and application [including electrodes for discharge chambers in gas lasers]. CSSPUNTP. Materialy. Moskva, 1987, 19-22. (RZFZA, 88/1N880).
162. Shpilevoy,B.A.; Chernomorov,V.I.; Cherkasskiy,Yu.B. (PKBE). Pulsed current generator. OTIZD, no. 27, 1987, 1325670. (RZELD, 88/1D124).

#### 4. Cooling Systems

163. Zasavitskiy,I.I.; Maksimov,G.A.; Radionov,A.R.; Skripachev,I.V.; Stepanov,Ye.V. (). Cryostatting system for semiconductor lasers with output radiation along IR fiber lightguides. Vysokochistyye veshchestva, no. 5, 1987, 202-204. (RZELD, 88/1D93).

#### 5. Deflectors

#### 6. Attenuators

#### 7. Collimators

164. Mishchenko,Ye.D.; Akhmedov,B.; Mikhalev,V.S. (). Optical characteristics of a slotted collimator and its use in a triple monochromator. OPSPA, v. 63, no. 3, 1987, 639-645.
165. Nekrasov,L.P.; Kuba,A.P. (GOI). Autocollimation system to determine the angular position of spaced reflectors. OPMPA, no. 2, 1988, 36-38.
166. Senatorov,V.N.; Buzanov,V.I.; Mazur,A.Ye.; Trubenok,O.S. (KPIA). Collimator using a mobile mirror objective lens. KPIA. Vestnik. Priborostroyeniye, no. 17, 1987, 60-62. (RZFZA, 88/1L666).
167. Senatorov,V.N.; Mazur,A.Ye.; Grishchenko,N.A. (KPIA). Wide-angle collimator with a mirror unit. KPIA. Vestnik. Priborostroyeniye, no. 17, 1987, 57-60. (RZFZA, 88/1L665).

## 8. Diffraction Gratings

168. Andrushko,L.M.; Voznesenskiy,V.A.; Tarnelashvili,G.T.; Felinskiy,G.S. (). Study on the diffraction of optical radiation by a thermostimulated grating in a planar microwaveguide. UFIZA, no. 9, 1987, 1345-1349. (RZFZA, 88/1L52).
169. Ebralidze,T.D.; Mumladze,A.N. (). Diffraction gratings produced by reversible orientational photoanisotropy. OPSPA, v. 64, no. 1, 1988, 155-158.

### 9. Focusers

### 10. Windows

### 11. Polarizers

### 12. Beam Shaper

### 13. Lenses

170. Bobrov,S.T. (). Effect of errors in the manufacture of diffraction lenses, on the quality of the images formed. AVMEB, no. 5, 1987, 62-66.

### 14. Filters

171. Brodov,M.Ye.; Galkin,A.L.; Ivanov,A.V.; Pashinin,P.P. (IPM). Shortening the pulse duration of optical amplifiers by nonlinear filters. IPM. Preprint, no. 167, 1987, 1-10. (RZFZA, 88/2L1065).
172. Pyatakhin,M.V.; Suchkov,A.F. (FIAN). Methods to control fine-scale structure and depolarization of radiation under diffraction. KVEKA, no. 2, 1988, 288-292.

### 15. Beam Splitters

173. Muravtsov,A.D. (NIIRad). Optical signal splitter. NIIRad. Trudy, no. 3, 1987, 125-128. (RZFZA, 88/2L798).

### 16. Mirrors

174. Agapov,N.A.; Polovtsev,I.G. (). Industrial control of optical surfaces [including surfaces of large mirrors]. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 126-137.

175. Antropov, Ye.T.; Parayev, P.A. (IVTAN). Reflectometry of laser mirrors and of highly reflecting optical elements. IVTAN. Preprint, no. not given, 1987, 87 p. (RZFZA, 88/1L683).
176. Burakov, S.D.; Godlevskiy, A.P. (). Effect of laser radiation on the optical characteristics of dielectric mirrors. ZPSBA, v. 48, no. 2, 1988, 224-228.
177. Dyadyukov, F.S. (GOI). Aspherical sectioned mirror consisting of spherical elements. OPMPA, no. 2, 1988, 26-27.
178. Fluck, I.; Szalai, Gy. (). Results of the development of thin optical coatings and introduction of new methods to test them (in Hungarian). FNMKA, no. 5, 1987, 133-138, 159, 160, 3. (RZFZA, 88/1L698).
179. Gonchukov, S.A.; Kovsh, I.B.; Pyatakhin, M.V.; Urin, B.M.; Shevchenko, V.G. (FIAN). Reducing the angle of divergence of laser radiation by altering the shape of the mirrors. FIAN, no. 133, 1987, 1-43. (RZFZA, 88/2L1255).
180. Grishina, N.V. (). Synthesis of metal-dielectric optical coatings. OPSPA, v. 64, no. 1, 1988, 151-154.
181. Gusev, S.A.; Dubrov, V.V.; Zhitnik, I.A.; Zabrodin, I.G.; Kuz'michev, A.I.; Luskin, B.M.; Mitropol'skiy, M.M.; Salashchenko, N.N.; Slemzin, V.A.; Surgutskov, R.P.; Sukhodrev, N.K. (IPF). Multilayer spherical mirrors of normal incidence for the ultrasoft x-ray region. PZTFD, no. 14, 1987, 887-892.
182. Lamekin, P.I. (GOI). Polarization properties of corner reflectors. OPMPA, no. 1, 1988, 14-17.
183. Orlov, S.V.; Pervak, Yu.A.; Fekeshgazi, I.V. (). Synthesis and optimization of multilayer thin-film systems. KVELA, no. 32, 1987, 33-39. (RZFZA, 88/1L703).
184. Orlov, S.V.; Pervak, Yu.A.; Fekeshgazi, I.V. (). Optimizing the design of multilayer coatings. ZPSBA, v. 47, no. 1, 1987, 138-141.
185. Spikhal'skiy, A.A. (IOF). Stabilizing the characteristics of distributed Bragg mirrors. ZTEFA, no. 8, 1987, 1665-1668.
186. Stolov, Ye.G. (). Synthesis of interference optical coatings. OPSPA, v. 64, no. 1, 1988, 147-150.



187. Troitskiy, Yu.V. (). Conducting surface as a model to describe losses at the boundary layers of a dielectric multilayer system. OPSPA, v. 64, no. 1, 1988, 140-146.
188. Trubko, S.V.; Lebedeva, G.I.; Garbul', A.A. (GOI). Methods to design mirror telescopes without central shielding. OPM:PA, no. 2, 1988, 21-23.
189. Virnik, Ya.Z.; Vorotilin, S.P.; Gerasimov, V.B.; Vitozhents, V.G.; Dolgushin, A.I.; Zakharov, M.V. Sagalovich, A.Ya. (). Compensation properties of retroreflector mirrors. OPSPA, v. 63, no. 3, 1987, 646-651.
190. Yefimov, V.M.; Sobol', V.P.; Troitskiy, S.S.; Vlasenko, S.O. (KPIA). Attachment to the SF-26 spectrophotometer to measure coefficients of mirror reflection. KPIA. Vestnik. Priborostroyeniye, no. 17, 1987, 55-57. (RZFZA, 88/1L569).

#### 17. Detectors

191. Alekseyev, A.V.; Andreyeva, L.I.; Gomyranova, G.I.; Kalinin, Yu.M.; Krasin, Ye.V.; Shoytov, M.A.; Yuzhin, A.I. (VNIIOFI). The FEK-KL photodetector to record picosecond light pulses. PRTEA, no. 5, 1987, 242.
192. Alferov, Zh.I.; Andreyev, V.M.; Vakarel'ska, K.I.; Zadiranov, Yu.M.; Larionov, V.R.; Nikitin, A.V. (FTI). Thin-film multipass AlGaAs photoelements with bilateral photosensitivity. PZTFD, no. 3, 1988, 193-197.
193. Arutyunyan, V.M.; Varseryan, R.S.; Semerdzhyan, B.O. (). Impurity photodetectors using sulfur-doped silicon. Fizika (Yerevan), no. 7, 1987, 5-22. (RZFZA, 88/2L698).
194. Burakov, S.D.; Godlevskiy, A.P.; Soldatkin, N.P.; Sharin, P.P. (). Autodyne laser radiation detectors and their application. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 82-91.
195. Demkin, V.N.; Privalov, V.Ye. (VNIIM). Compensating for temperature drift in photodetectors in systems to stabilize radiation power. PRTEA, no. 1, 1988, 174-176.
196. Galus, W.; Grudzien, M.; Maciak, A.; Piotrowski, J. (). Use of uncooled mercury cadmium telluride 10.6  $\mu\text{m}$  photodetectors (in English). Nauchnaya apparatura, no. 1, 1987, 125-131. (RZFZA, 88/2L699).

197. Ganeyev, R. A.; Gorbushin, V. V.; Usmanov, T.; Khudayberganov, S. T. (IEANUZ). Using the LPP-2 pyrodetector to record vacuum ultraviolet radiation. PRTEA, no. 1, 1988, 216-218.
198. Ganichev, V. A.; Yelkin, O. K.; Zaydel', I. N.; Kozlov, V. A.; Lyapunov, G. M.; Malinovskiy, A. L.; Ryabov, Ye. A.; Sil'kis, E. G. (ISAN). Multichannel strobed photon counter. PRTEA, no. 5, 1987, 152-155.
199. Ishanin, G. G.; Luk'yanov, V. I.; Tikhonov, S. V. (). Theoretical fundamentals in the pulsed operation of inhomogeneous radiation detectors using the thermoelastic effect in crystal quartz. IVUBA, no. 10, 1987, 74-82. (RZFZA, 88/2L689).
200. Krusell', U. U. (TPI). Criteria for selecting the pass band of photodetectors for pulsed recycling rangefinders. TPI. Trudy, no. 639, 1987, 56-60. (RZFZA, 88/1L632).
201. Rumyantsev, K. Ye. (). Time parameters of systems to search for optical radiation sources. IVUZB, no. 9, 1987, 23-27. (RZFZA, 88/1L634).
202. Vorobey, R. I.; Piskarev, V. V.; Shmatin, S. G.; Yarzhebetskiy, V. B. (). Microprocessor control of the operation of a multichannel paraphase photodetector. PRBRD, no. 9, 1987, 5-7. (RZFZA, 88/2L829).
203. Zakharov, B. V. (TPI). Comparative evaluation of photodetectors using an external and internal photoeffect. TPI. Trudy, no. 639, 1987, 15-20. (RZFZA, 88/1L633).
204. Zhmud', V. A.; Kononenko, Yu. P.; Stolpovskiy, A. A. (). Method to broaden the band of radio-frequency photodetectors. AVMEB, no. 1, 1988, 107-108.

#### 18. Modulators

205. Adomenas, P. V.; Adomenene, O. K.; Danilov, V. V.; Morichev, I. Ye.; Onokhov, A. P.; Savel'yev, D. A.; Khrebtov, A. I. (). Modulation characteristics of chiral smectics in the IR. PZTFD, no. 3, 1988, 230-232.
206. Ishchenko, A. A.; Kuchma, I. G.; Maslov, V. G.; Murzin, A. G.; Pivinskiy, Ye. G.; Prilezhayev, D. S.; Prokof'yeva, T. P.; Fromzel', V. A. (). Q-switching of erbium lasers at 1.54  $\mu\text{m}$  by means of a bleachable medium. IANFA, no. 2, 1988, 309-311.

207. Ivanov,O.V.; Konovalova,S.A.; Khochadin,N.V. (LGI). Electrooptic half-wave switch for optical radiation at two wavelengths. VINITI. Deposit, no. 5270-V87, 20 Jul 1987, 10 p. (RZFZA, 88/2L769).
208. Kalapusha,A.L.; Kotsarenko,N.Ya.; Chayka,G.Ye. (KGU). Possibility of controlling laser radiation by space charge waves in semiconductor films. UFIZA, no. 1, 1988, 16-18.
209. Knyaz'kov,A.V.; Lobanov,M.N. (LPI). Modulation of light by electrically controlled photoinduced scattering in PLZT crystals. PZTFD, no. 4, 1988, 351-355.
210. Kuti,C.S.; Juhasz,T.; Bakos,J.; Vannay,L. (). KDP Q-switch with decreased piezooptic effects (in English). APHUE, no. 2, 1987, 247-250. (RZFZA, 88/1L771).
211. Martynovich,Ye.F.; Tokarev,A.G.; Nazarov,V.M. (). Passive Q-switching in a laser resonator by amorphous Al(sub2O(sub3)) crystals with color centers. ZPSBA, v. 48, no. 1, 1988, 135-138.
212. Minasyan,V.N.; Movsesyan,L.R. (GOI). Designing a modulator with a resonator partially filled by an electrooptic crystal. OPMPA, no. 1, 1988, 6-8.
213. Morichev,I.Ye.; Vladimirov,F.L.; Pletneva,N.I.; Petrova,L.I.; Morozova,Ye.A.; Onokhov,A.P.; Mel'nikova,O.N. (). Liquid crystal space-time modulators of light. IANFA, no. 2, 1988, 252-256.
214. Vasil'yev,N.N.; Gadonas,R.A.; Dudchik,Yu.I.; Koptev,V.G.; Krasauskas,V.V.; Piskarskas,A.S.; Shkadarevich,A.P. (). Passive mode locking in neodymium lasers using switches of radiatively colored lithium fluoride. KVELA, no. 33, 1987, 28-30. (RZFZA, 88/1L1166).
215. Volkonskiy,V.B.; Yakovlev,V.V.; Ignatov,A.B.; Buzhinskaya,I.M. (). Electrooptic modulator of light using planar waveguide resonators. PRTEA, no. 1, 1988, 176-178.
216. Zhil'tsov,V.I.; Kromskiy,G.I.; Makarov,V.N.; Rozhdestvin,V.N.; Saprykin,L.G.; Fefelov,A.P.; Khomenko,S.I. (GOI). Fast-response laser Q-switch using the frustrated total internal reflection effect. OPMPA, no. 2, 1988, 1-3.

## F. NONLINEAR OPTICS

### 1. General Theory

217. Adonts, G.G.; Kanetsyan, E.G.; Slobodskoy, M.V. (). Induced optical anisotropy in the presence of a magnetic field. *OPSPA*, v. 64, no. 2, 1988, 258-262.
218. Akhmediyev, N.N.; Ostrovskaya, N.V. (). Stability of nonlinear waves in symmetric planar waveguides. *Fizicheskiye osnovy mikroelektronnykh priborov. MIET. Moskva*, 1987, 39-44. (RZFZA, 88/1Zh341).
219. Aktsipetrov, O.A.; Vasil'yev, S.I.; Panov, V.I. (MGU). Role of roughness in giant Raman scattering and scanning tunnel microscopy of surfaces. *ZFPRA*, v. 47, no. 4, 1988, 187-190.
220. Aleshkevich, V.A.; Vysloukh, V.A.; Kozhoridze, G.D.; Matveyev, A.N.; Terziyeva, S.I. (MGU). Nonlinear propagation of partially coherent pulses in fiber lightguides and the role of dispersion of higher orders. *KVEKA*, no. 2, 1988, 325-332.
221. Al'tshuler, G.B.; Manenkov, A.A.; Starodumov, A.N.; Uvarin, V.V. (IOF). Stability of bleaching in the propagation of light beams in nonlinear heterogeneous media. *IANFA*, no. 2, 1988, 396-399.
222. Al'tshuler, G.B.; Yermolayev, V.S.; Inochkin, M.V.; Manenkov, A.A.; Prokhorov, A.M. (IOF; LITMO). Conditions to observe nonlinear scattering in heterogeneous media. *IANFA*, no. 2, 1988, 245-251.
223. Andreyev, A.A. (). Propagation of laser waves in multivalley cubic semiconductors under conditions of Stark shift of the valleys. *FZELA*, no. 35, 1987, 13-16. (RZFZA, 88/1L994).
224. Andreyev, N.Ye.; Silin, V.P.; Tikhonchuk, V.T. (FIAN). Dynamic modes of low-threshold nonlinear scattering in an inhomogeneous plasma. *FIAN. Preprint*, no. 192, 1987, 1-20. (RZFZA, 88/1G49).
225. Andrianov, S.N.; Zinov'yev, P.V.; Malyukin, Yu.V.; Rudenko, Ye.N.; Samartsev, V.V.; Silayeva, N.B.; Sheybut, Yu.Ye. (). Two-frequency superradiance from pyrene impurity centers in diphenyl. *FNTED*, no. 9, 1987, 957-966. (RZFZA, 88/1L972).

226. Andryunas,K.; Barila,A.; Vishchakas,Yu.; Mikhaylov,A.; Mochalov,I.V.; Petrovskiy,G.T.; Syrus,V. (IFANLi). Crystal active media with high cubic nonlinearity. IFANLi. Preprint, no. not given, 1987, 54 p. (RZFZA, 88/2L1289).
227. Arutyunyan,V.M.; Arutyunyan,I.G.; Ishkhanyan,S.P.; Papazyan,T.A. (). Stimulated change in the polarization of picosecond laser pulses in sodium vapor. VINITI. Deposit, no. 7103-V87, 2 Oct 1987, 13 p. (RZFZA, 88/1L1194).
228. Arutyunyan,V.M.; Badanyan,N.Sh.; Chakhmakhchyan,A.A.; Shakhnazaryan,N.V. (). Coherent two-photon absorption of ultrashort light pulses. OPSPA, v. 64, no. 1, 1988, 42-45.
229. Badanyan,N.Sh.; Shakhnazaryan,N.V. (). Action of a laser pulse on a system of atoms coupled by inductively resonant interaction. IAAFA, no. 4, 1987, 217-220. (RZFZA, 88/2L999).
230. Bagryanskiy,V.A.; Malinovskiy,V.K.; Novikov,V.N.; Sokolov,A.P. (IAESOAN). Inelastic scattering of light by fractons in polymers. IAESOAN. Preprint, no. 362, 1987, 1-16. (RZFZA, 88/2L395).
231. Baltrameyunas,R.; Veletskas,D. (VilGU). Effect of shallow impurities on the defocusing of laser beams in silicon crystals. FTPPA, no. 1, 1988, 146-147.
232. Bel'dyugin,I.M.; Stepanov,A.A.; Shcheglov,V.A. (FIAN). Theory of degenerate two-wave (interference) interaction of two-frequency radiation in resonance media. FIAN. Preprint, no. 195, 1987, 1-28. (RZFZA, 88/2L1388).
233. Beygman,I.I.; Chichkov,B.N. (FIAN). Subthreshold excitation of atoms by electrons in a strong light field. ZFPRA, v. 46, no. 8, 1987, 314-316.
234. Bobrysheva,A.I.; Moskalenko,S.A. (). Biexcitons in semiconductors. Kvantovyye protsessy v intensivnykh polyakh. Kishinev, 1987, 76-83. (RZFZA, 88/2N560).
235. Bogolyubov,N.N.; Kudryavtsev,I.K.; Lyagushin,S.F.; Shumovskiy,A.S. (OIYaI). Superradiance in systems with external sources. OIYaI. Preprint, no. R17-87-645, 1-10. (RZFZA, 88/2L964).
236. Burov,L.I.; Gancherenok,I.I. (). Dispersion of photoinduced anisotropy in dye solutions under inhomogeneous broadening of the resonance transition. OPSPA, v. 64, no. 2, 1988, 306-309.

237. Butenko,A.V.; Shalayev,V.M.; Shtokman,M.I. (IAESOAN; IFSOAN; KrGU). Giant impurity nonlinearities in the optics of fractal clusters. ZETFA, v. 94, no. 1, 1988, 107-124.
238. Buzyalis,R.R.; Dement'yev,A.S.; Kosenko,Ye.K. (). Effect of competitive nonlinear processes on the efficiency of cascade stimulated Brillouin compression of laser pulses in condensed media. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 65-70. (RZELD, 88/1D179).
239. Bykovskiy,Yu.A.; Lipatov,N.I.; Makarenko,S.P.; Polivanov,Yu.N.; Puchkovskaya,G.A.; Sakhamova,V.V. (IOF). Surface polaritons in single- and polycrystal BeO. KVEKA, no. 2, 1988, 347-352.
240. Daugvila,A.; Kabelka,V.; Masalov,A.V.; Milyauskas,A. (IFANLi). Propagation of short light pulses through dye solutions, allowing for nonlinear dispersion. KVEKA, no. 2, 1988, 333-340.
241. Dulin,M.N.; Yemel'yanov,A.A.; Ponomarev,N.N. (). Optical properties of a system of ultrasmall absorbing particles. CVKFKhUS, 1st. Materialy. Moskva, 1987, 165-168. (RZFZA, 88/2L301).
242. Dykman,M.I.; Tarasov,G.G. (). Amplification of opposed waves in nonlinearly absorbing cubic crystals. KVELA, no. 32, 1987, 47-53. (RZFZA, 88/1L966).
243. Dykman,M.I.; Tarasov,G.G. (). Dichroic optical bistability in a Fabry-Perot laser containing a cubic crystal. KVELA, no. 32, 1987, 53-59. (RZFZA, 88/1L1162).
244. Gaysenok,V.A. (). Theory of polarization dependencies of multiphoton processes in isotropic condensed media. OPSPA, v. 64, no. 2, 1988, 300-305.
245. Gayzhauskas,E.; Piskarskas,A.; Stalyunas,K.; Smil'gyavichyus,V.; Shlekis,G. (VilGU). Three dimensional distribution of the intensity of light pulses formed from opposed stimulated scattering. PZTFD, no. 2, 1988, 141-144.
246. Gladkov,S.M.; Zheltikov,A.M.; Koroteyev,N.I.; Morozov,V.B.; Rychev,M.V.; Tunkin,V.G.; Fedorov,A.B. (MGU). Strong optical nonlinearity in excited gases and plasmas. IANFA, no. 2, 1988, 217-224.

247. Gochelashvili, K.S.; Prokhorov, A.M.; Starodumov, A.N. (). Stability of intense optical radiation in thermal self-action. IANFA, no. 2, 1988, 403-406.
248. Golovey, V.M.; Golovey, M.I.; Turok, I.I. (). Obtaining of paratellurite single crystals. KVELA, no. 33, 1987, 76-88. (RZFZA, 88/1L643).
249. Gorbunov, L.M.; Romanov, A.B. (FIAN). Nonlinear displacement of waves and active diagnostics of coherent Raman scattering in a plasma. FIAN. Preprint, no. 131, 1987, 3-42. (RZFZA, 88/1G73).
250. Il'inskiy, Yu.A.; Mkoyan, A.S. (). Cooperative Raman scattering in the multimode case. OPSPA, v. 64, no. 2, 1988, 269-273.
251. Khadzhi, P.I. (). Theory of nonlinear surface waves. FTVTA, no. 9, 1987, 2721-2724. (RZFZA, 88/2L1376).
252. Khadzhi, P.I.; Kiseleva, Ye.S. (). New type of nonlinear surface waves. PZTFD, no. 13, 1987, 793-797.
253. Khadzhi, P.I.; Kiseleva, Ye.S. (IPFANM). Laws governing the dispersion of nonlinear surface waves. PZTFD, no. 15, 1987, 910-912.
254. Khizhnyakov, V.; Tekhver, I. (). Theory of Raman scattering, allowing for square-law vibronic interaction. ETFMB, no. 3, 1987, 281-288. (RZFZA, 88/1L220).
255. Kiselev, V.P.; Likhanskiy, V.V.; Soldak, G.V. (IAE). Nonlinear amplification from resonant optical pumping in a three-level medium. KVEKA, no. 1, 1988, 133-137.
256. Kistenev, Yu.V. (). Quasi-steady-state asymptotics in the solution of Bloch equations. VINITI. Deposit, no. 4644-V87, 25 Jun 1987, 12 p. (RZFZA, 88/1L974).
257. Kistenev, Yu.V. (). Relationship of amplitude and phase of optical pulses in resonantly absorbing or amplifying media. OPSPA, v. 62, no. 6, 1987, 1402-1404.
258. Kitayev, N.P. (IOF). Experimental study on concentrative nonlinear properties of stratified solutions near the critical temperature. IOF. Preprint, no. 203, 1987, 1-54. (RZFZA, 88/2L218).
259. Kochelap, V.A.; Sokolov, V.N. (). Spatial distribution of photocarriers in semiconductors under saturation of optical absorption. KVELA, no. 32, 1987, 59-67. (RZFZA, 88/1L1192).

260. Koepke, C.Z. (). Cavityless optical bistability in thin sprayed CdS films (in English). PSSBB, v. B141, no. 2, 1987, K139-K142. (RZFZA, 88/1L1187).
261. Krekhivskiy, O.V.; Nitsovich, B.M. (). Dynamic nonlinearity of absorption of laser radiation in the exciton region of frequencies. UFIZA, no. 9, 1987, 1322-1324. (RZELD, 88/2D14).
262. Kubertavichyus, V.; Mereshkyavichyus, A.; Gavryushin, V. (VilGU). Study on nonlinear absorption in ZnWO(sub4) single crystals. LFSBA, no. 1, 1988, 106-107.
263. Kulish, N.R. (). Saturation of optical absorption in crystals. KVELA, no. 33, 1987, 50-55. (RZFZA, 88/1L1191).
264. Kulish, N.R. (). Effect of competitive processes on the bleaching of two-level media. KVELA, no. 33, 1987, 55-62. (RZFZA, 88/1L1190).
265. Lobkov, V.S.; Moiseyev, S.A.; Shtyrkov, Ye.I. (). Photon echo study on cross-relaxation kinetics in ruby. OPSPA, v. 64, no. 1, 1988, 79-83.
266. Lushnikov, A.A.; Maksimenko, V.V.; Simonov, A.Ya. (). Hyper-Raman scattering of light by small metal particles. CVKFKhUS, 1st. Materialy. Moskva, 1987, 102-109. (RZFZA, 88/2L409).
267. Makarov, V.A.; Matveyeva, A.V. (MGU). Periodic and chaotic variation in the intensity and polarization of light at the output of a ring resonator filled with a nonlinear gyrotropic medium. KVEKA, no. 1, 1988, 138-146.
268. Mamedov, G.M.; Khalilova, E.I. (AzTI). Bistable optical element using GaSe(x)Te(1-x) layered semiconductors. ZTEFA, no. 1, 1988, 178-179.
269. Mihalache, D. (). Study on the interaction between coherent radiation and various atomic systems (in Romanian). SCEFA, no. 5, 1987, 384-455. (RZFZA, 88/1L1234).
270. Morozov, V.A.; Shorygin, P.P. (). Resonance conversion of multiphoton bichromatic transient radiation by two-level molecules. OPSPA, v. 63, no. 3, 1987, 693-695.



271. Nabiyev, R.F.; Popov, Yu.M. (FIAN). Evidence of multifrequency effects in the spectra of optical amplification and absorption in semiconductors. FIAN. Preprint, no. 175, 1987, 1-26. (RZFZA, 88/2L1000).
272. Okulov, A.Yu.; Orayevskiy, A.N. (FIAN). Discrete imaging and space-time dynamics of wave packets in nonlinear media. Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom. FIAN. Trudy, no. 187. Moskva, Nauka, 1988, 202-222.
273. Pestov, E.G. (FIAN). Theory of the relaxation of quantum systems in a strong electromagnetic field. Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom. FIAN. Trudy, no. 187. Moskva, Nauka, 1988, 60-116.
274. Pinkevich, I.P.; Reznikov, Yu.A.; Reshetnyak, V.Yu.; Soskin, M.S.; Khizhnyak, A.I.; Yaroshchuk, O.V. (). Photoinduced changes in the parameter of order and polarizability of nematic liquid crystal molecules. UFIZA, no. 8, 1987, 1216-1220. (RZFZA, 88/1L1181).
275. Polubotko, A.M. (FTI). Interaction between radiation and molecules and the phenomenon of giant Raman scattering. FTI. Preprint, no. 1151, 1987, 1-40. (RZFZA, 88/1L225).
276. Popescu, I.M.; Stefanescu, E.N.; Sterian, P.E. (). Applicability of the mean field method in optical bistability (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 173-177. (RZFZA, 88/2L1257).
277. Preobrazhenskiy, N.G.; Trashkeyev, S.I. (). Multimode vibration mode of the director of a nematic liquid crystal in the light field of an inclined o-wave. OPSPA, v. 62, no. 6, 1987, 1404-1407.
278. Rupasov, V.I. (ISAN). Critical phenomena in cooperative Raman scattering. ZFPRA, v. 47, no. 2, 1988, 73-76.
279. Sendov, Yu.M.; Suleymanov, A.M. (IFANAz). Raman scattering of light by surface collective excitations in singlet-triplet ferromagnetics. IFANAz. Preprint, no. 228, 1987, 1-14. (RZFZA, 88/2L403).
280. Sokolov, I.A.; Trofimov, G.S.; Stepanov, S.I. (FTI). Transient photoelectromotive force in nonlinear excitation. ZTEFA, no. 2, 1988, 429-431.

281. Sumetskiy, M.Yu. (LETI). Boundary effects at the boundary of state stability: optical resonators and highly excited hydrogen atoms in a magnetic field. ZETFA, v. 94, no. 1, 1988, 87-106.
282. Vasil'yev, A.A.; Kovalevskiy, M.M.; Rassvetalov, L.A. (NovgPI). Light echo in incoherent excitation. IVUFA, no. 1, 1988, 99-101.
283. Vaychaytis, V.; Ignatavichyus, M. (VilGU). Study on Cerenkov radiation from nonlinear polarization waves under resonance conditions. LFSBA, no. 1, 1988, 79-80.
284. Vinogradov, An.V. (FIAN). Nonequilibrium diagram of the technology and theory of non-Markov relaxation of quantum systems in light fields. Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom. FIAN. Trudy, no. 187. Moskva, Nauka, 1988, 117-143.
285. Vysloukh, V.A.; Ivanov, A.V.; Cherednik, I.V. (MGU). Statistics of fluctuations of single soliton solutions to the nonlinear Schroedinger equation. IVYRA, no. 8, 1987, 980-990.
286. Yaremko, A.M. (). Excitons in an intense electromagnetic wave field. Effect of multiquantum transitions. KVELA, no. 33, 1987, 30-36. (RZFZA, 88/1L993).
287. Yelizarov, A.Yu.; Cherepkov, N.A. (FTI). Method to determine the cross-sections of two-quantum excitation of discrete levels. PZTFD, no. 3, 1988, 210-214.
288. Yenaki, N.A. (). Role of collective processes in the absorption of an external laser field in two-level media. OPSPA, v. 64, no. 1, 1988, 27-32.
289. Yenakiy, V.N. (KiGU). Super nonradiative transitions in lanthanides in luminescing crystals. MoldNIINTI. Deposit, no. 869-M87, 24 Sep 1987, 9 p. (RZFZA, 88/1L971).
290. Zeyger, S.G. (). Interaction of weak and strong waves with orthogonal circular polarizations. OPSPA, v. 64, no. 1, 1988, 134-139.

## 2. Frequency Conversion

291. Ambrazyavichene, V.; Brazis, R.; Kunigelis, A. (IFPV). Second harmonic generation by surface plasmons in semiconductors in a permanent magnetic field. PZTFD, no. 13, 1987, 816-819.

292. Begishev, I.A.; Ganeyev, R.A.; Gulamov, A.A.; Yerofeyev, Ye.A.; Kamalov, Sh.R.; Usmanov, T.; Kholzhayev, A.D. (IEANUZ). Fifth harmonic generation in a neodymium laser and two-photon absorption in KDP and ADP crystals. KVEKA, no. 2, 1988, 353-361.
293. Bokut', B.V.; Romanenko, Ye.S.; Khilo, N.A. (). Designing of optical correlation circuits for frequency adding. VBSFA, no. 4, 1987, 63-66. (RZFZA, 88/2A230).
294. Burakov, V.S.; Sender, V.R.; Kondratyuk, N.V.; Tunik, I.M.; Kruglik, G.S.; Skripko, G.A.; Shkadarevich, A.P.; Koptev, V.G. (). Laser converter using  $\text{Al}(\text{sub}2)\text{O}(\text{sub}3):\text{Ti}^{3+}$  crystal, tunable in the 680-950 nm range. PRBRD, no. 9, 1987, 47-49. (RZFZA, 88/2L1278).
295. Dovchenko, D.N.; D'yakov, V.A.; Pryalkin, V.I. (MGU). Phosphate potassium titanyl crystals. Growth and use for nonlinear frequency conversion. IANFA, no. 2, 1988, 225-230.
296. Kabelka, V.I.; Rimkyavichyus, R.E.; Rusyatskas, A.K.; Yakubenas, R.A. (IFANLi). Device for fast tuning of dye lasers. PRTEA, no. 1, 1988, 183-184.
297. Kazak, N.S.; Lugina, A.S.; Miklavskaya, Ye.M.; Nadenenko, A.V.; Pavlenko, V.K.; Sannikov, Yu.A. (). Vector synchronism in nonlinear frequency conversion. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 75-78. (RZELD, 88/1D251).
298. Perina, J.; Krepelka, J.; Horak, R.; Hradil, Z.; Bajer, J. (). Photon statistics of nonclassical radiation in second harmonic generation (in English). CZYPA, v. B37, no. 10, 1987, 1161-1173. (RZFZA, 88/2L983).
299. Vaychaytis, V. (VilGU). Quasi-resonant conversion of picosecond laser pulses in sodium vapor. LFSBA, no. 1, 1988, 88-89.
300. Vetrov, K.V.; Volosov, V.D.; Kalintsev, A.G. (). Nonlinear optical characteristics of CDA and DCDA crystals while generating second harmonics of neodymium lasers. IANFA, no. 2, 1988, 301-303.
301. Voronich, I.N.; Zaretskiy, A.I.; Kirillov, G.A.; Kosyak, Ye.G.; Kochemasov, G.G.; Rukavishnikov, N.N.; Ryadov, A.V.; Samylin, V.A.; Sukharev, S.A. (). Frequency doubling of the Iskra-4 iodine laser. IANFA, no. 2, 1988, 322-326.

### 3. Parametric Processes

302. Gayzhauskas,E.; Stalyunas,K. (VilGU). Compression of laser pulses in parametrically interacting light beams. LFSBA, no. 1, 1988, 92-93.
303. Iodishyus,I.; Urbas,A.; Umbrasas,A. (VilGU). Using quasi-c-w optical parametric oscillators in spectroscopy. Cited in LFSBA, no. 1, 1988, 89.
304. Ionushauskas,G.; Iozapavichyus,A. (VilGU). Parametric oscillation of light in  $\text{LiNbO}_3$ ,  $\text{CsH}_2\text{AsO}_4$  and  $\text{Ba}_2\text{NaNb}_5\text{O}_{15}$  crystals under synchronous pumping by a picosecond  $\text{La}_2\text{Be}_2\text{O}_5:\text{Nd}$  laser. Cited in LFSBA, no. 1, 1988, 92.
305. Lebedev,V.V.; Plyasulya,V.M. (ITF). Study on parametric vacuum UV oscillation in an electric-discharge plasma. KVEKA, no. 1, 1988, 127-132.
306. Novikov,A.D.; Odulov,S.G. (IFANUk). Degenerate parametric oscillation in photorefractive crystals. KVEKA, no. 2, 1988, 362-368.
307. Rautian,S.G.; Safonov,V.P.; Chubakov,P.A.; Shalayev,V.M.; Shtokman,M.I. (IAESOAN). Giant parametric scattering of light by silver clusters. ZFPRA, v. 47, no. 4, 1988, 200-203.
308. Smil'gyavichyus,V.; Shlekis,G. (VilGU). Study on the spatial structure of laser radiation with stimulated Brillouin compression, applied to pumping of optical parametric oscillators. LFSBA, no. 1, 1988, 89-91.
309. Verlan,E.M. (). Optical anisotropy of gas media and three-wave parametric processes in strong electromagnetic and permanent magnetic fields. UFIZA, no. 8, 1987, 1165-1173. (RZFZA, 88/1L1215).

### 4. Stimulated Scattering

#### a. Miscellaneous Scattering

310. Galushkin,M.G.; Zemskov,Ye.M.; Klushin,V.N.; Orlov,Ye.P. (FIAN). Enthalpy stimulated scattering in the active medium of lasers with the heat release dependent on density and temperature. FIAN. Preprint, no. 191, 1987, 1-24. (RZFZA, 88/2L1355).
311. Gulidov,S.S.; Ivanov,V.B.; Mak,A.A.; Papernyy,S.B.; Startsev,V.R. (). Stimulated scattering compression of light pulses. IANFA, no. 2, 1988, 294-300.

312. Maksimov, A.V.; Silin, V.P. (FIAN). Theory of double stimulated scattering in a collisional plasma with reflecting boundaries. FIAN. Preprint, no. 226, 1987, 1-58. (RZFZA, 88/2G41).

b. Raman

313. Bobrovskiy, A.N.; Kozhevnikov, A.V.; Mishchenko, V.A.; Myl'nikov, G.D.; Shpilyun, O.V. (IAE). Resonant stimulated Raman scattering in NH(sub3) with depletion of the pumping radiation and a wide range of frequency tunings. KVEKA, no. 2, 1988, 379-381.

314. Bobrovskiy, A.N.; Kozhevnikov, A.V.; Mishchenko, V.A.; Myl'nikov, G.D.; Shpilyun, O.V. (IAE). Spatial characteristics of pumping and "Stokes" beams under resonant stimulated Raman scattering in NH(sub3). KVEKA, no. 2, 1988, 381-383.

315. Ivanov, V.V.; Senyatskiy, Yu.V.; Sklizkov, G.V. (FIAN). Stimulated Raman scattering in laser glass. ZFPRA, v. 47, no. 2, 1988, 80-82.

c. Brillouin

316. Adkhamov, A.A. (). Nonlinear reflection of electromagnetic waves from a transparent plasma under stimulated Brillouin scattering. DANTA, no. 3, 1987, 153-156. (RZFZA, 88/1G48).

317. Adkhamov, A.A. (). Action of the coherent structure of electromagnetic fields on absolute parametric instability [in stimulated Brillouin scattering]. VINITI. Deposit, no. 7532-V87, 27 Oct 1987, 23 p. (RZFZA, 88/2G38).

318. Benenson, Z.M.; Yakovleva, T.V. (NSKPK). Theory of stimulated Brillouin scattering in a "running" mode in an inhomogeneous scattering medium. DANKA, v. 298, no. 2, 1988, 352-356.

319. Bubis, Ye. L.; Drobotenko, V.V.; Kulagin, O.V.; Pasmanik, G.A.; Stasyuk, N.I.; Shilov, A.A. (IPF). Effect of thermal self-action on stimulated Brillouin scattering in absorbing media. KVEKA, no. 1, 1988, 147-152.

320. Davydov, M.A.; Kozhevnikova, I.N. (IOF). Pulse compression under stimulated Brillouin scattering in liquids. KRSFA, no. 1, 1988, 2-8.

321. Hueller,S.; Mulser,P.; Schnabl,H.; Rubenchik,A.M. (). Nonstationary stimulated Brillouin scattering (in English). Problemy nelineynogo akustiki. International Union of Pure and Applied Physics Symposium on Nonlinear Acoustics. Part 1. Novosibirsk, 1987, 452-457. (RZFZA, 88/1P94).
322. Petrukhin,N.S.; Tamoykin,V.V.; Faynshteyn,S.M. (NIRFI). Stimulated Brillouin scattering of Alfvén and sound waves with a random phase in a plasma layer. FIPLD, no. 1, 1988, 98-100.
323. Silin,V.P.; Tikhonchuk,V.T.; Chegotov,M.V. (FIAN). Double stimulated Brillouin scattering of pumping waves with a complex spatial structure in a plasma. ZTEFA, no. 2, 1988, 307-314.
324. Silin,V.P.; Tikhonchuk,V.T.; Chegotov,M.V. (FIAN). Double stimulated Brillouin scattering in a plasma with rough reflecting surface. KRSFA, no. 7, 1987, 42-44. (RZFZA, 88/1G50).

d. Rayleigh

5. Self-focusing

325. Areshiev,I.P.; Subashiyev,V.K.; Faradzhev,B.G. (FTI). Linear circular dichroism of two-photon absorption and self-defocusing of neodymium laser radiation in n-InP crystals. FTTPA, no. 2, 1988, 325-327.
326. Galich,N.Ye.; Martynenko,O.G. (ITMO). Thermal self-defocusing of a light beam in a medium moving along the beam at short distances. ITMO. Preprint, no. 19, 1987, 3-20. (RZFZA, 88/2L1382).
327. Konyayev,P.A.; Lukin,V.P. (IOA). Focusing of high-power laser beams under thermal self-action in moving media. KVEKA, no. 2, 1988, 341-346.
328. Korniyenko,N.Ye.; Gayduk,V.F. (). Nature of self-focusing of Stokes radiation under stimulated Raman scattering. UFIZA, no. 9, 1987, 1331-1334. (RZFZA, 88/1L1246).
329. Okulov,A.Yu.; Orayevskiy,A.N. (FIAN). Compensation for self-focusing distortions under quasi-resonant amplification of light pulses. KVEKA, no. 2, 1988, 369-376.
330. Pyatakhin,M.V.; Suchkov,A.F. (FIAN). Suppression of small-scale self-focusing in diverging beams. KVEKA, no. 1, 1988, 164-166.

## 6. Acoustic Interaction

331. Aleksandrov, K.S.; Burkov, S.I.; Zamkov, A.V.; Kholov, A.; Khafizov, S.Kh.; Shabanova, L.A.; Klevtsov, P.V. (IFSOAN; KrGU; FTIANTadzh). Acoustooptic and elastic properties of  $\text{NaBi}[\text{WO}(\text{sub}4)](\text{sub}2)$  and  $\text{LiBi}[\text{MoO}(\text{sub}4)](\text{sub}2)$  crystals. FTVTA, no. 2, 1988, 609-612.
332. Balakshiy, V.I.; Kukushkin, A.G. (). Visualization of phase objects in Bragg diffraction of light. OPSPA, v. 64, no. 1, 1988, 99-103.
333. Belova, G.N. (AKIN). Effect of a transverse electric field on the acoustooptic effect induced by a surface acoustic wave in a liquid crystal layer. AKZHA, no. 1, 1988, 24-27.
334. Blistanov, A.A.; Viskun, T.G.; Mazur, M.M.; Pal'tsev, L.L.; Pustovoyt, V.I.; Chizhikov, S.I.; Shil'din, V.V.; Shorin, V.N. (). Collinear acoustooptic interaction in calcium molybdate. ZTEFA, no. 1, 1988, 189-192.
335. Brysev, A.P.; Strel'tsov, V.N. (FIAN). Wavefront reversal of sonic beams in piezosemiconductors with modulation of electron mobility by an external electric field. KRSFA, no. 9, 1987, 9-11. (RZFZA, 88/1P92).
336. Brysev, A.P.; Strel'tsov, V.N. (). Wavefront reversal of sonic beams under optoacoustic interaction in semiconductors. Problemy nelineynogo akustiki. International Union of Pure and Applied Physics Symposium on Nonlinear Acoustics. Part 1. Novosibirsk, 1987, 438-441. (RZFZA, 88/1P93).
337. Chiplis, D.; Rimeyka, R. (VilGU). Acoustooptic interaction in integrated optic structures. LFSBA, no. 1, 1988, 81.
338. Dunina, T.A.; Yegerev, S.V.; Pashin, A.Ye.; Puchenkov, O.V.; Uchastnov, V.N. (). Nonlinear effects in acoustic fields excited by optical methods. Problemy nelineynoy akustiki. International Union of Pure and Applied Physics Symposium on Nonlinear Acoustics. Part 1. Novosibirsk, 1987, 447-451. (RZFZA, 88/2P38).
339. Korneyeva, B.M.; Daneliya, N.I.; Korneyev, V.I. (). Effect of disruption of texture on the character of acoustooptic interaction. Fizicheskiye osnovy mikroelektronnykh priborov. MIET. Moskva, 1987, 50-53. (RZFZA, 88/2L59).

340. Kravchenko, V.I.; Parkhomenko, Yu.N.; Taranov, V.V.; Sagaydak, V.I.; Shcherbak, Yu.M. (IFANUK). Tunable lasing from multifrequency excitation of an acoustooptic deflector. UFIZA, no. 2, 1988, 211-214.
341. Kreymerman, G.Ye.; Mesh, M.Ya.; Proklov, V.V. (). Scattering of coherent radiation by longitudinal acoustic waves in a single-mode quartz lightguide. PZTFD, no. 3, 1988, 202-206.
342. Lyamshev, L.M.; Sakov, P.V. (). Wavefront reversal from nonlinear scattering of sound by pulsating solids. Problemy nelineynoy akustiki. International Union of Pure and Applied Physics Symposium on Nonlinear Acoustics. Part 1. Novosibirsk, 1987, 463-467. (RZFZA, 88/2P34).
343. Petrov, D.V.; Tsarev, A.V.; Yakovkin, I.B. (IFPSOAN). Spectral properties of acoustooptic conversion by the outflow wave in an anisotropic waveguide. KVEKA, no. 1, 1988, 173-177.
344. Savchenko, V.V. (DGU). Calculating the terms from spatial dispersion to describe photoelasticity of crystals. VINITI. Deposit, no. 6576-V87, 8 Sep 1987, 5 p. (RZFZA, 88/1L294).
345. Starshin, M.I. (SGU). Bragg high-aperture axially symmetric visualization. ZTEFA, no. 1, 1988, 192-195.
346. Vinokurov, V.S. (). Noncontact optoacoustic method with piezoelectric recording of the signal. PZTFD, no. 1, 1988, 34-36.
347. Zadorin, A.S.; Sharangovich, S.N. (TIASUR). Diffraction of light by sonic beams in crystals with circular birefringence under extreme acoustooptic coupling. IVYRA, no. 2, 1988, 199-206.
348. Zamkov, A.V.; Kokov, I.T.; Anistratov, A.T.; Shabanova, L.A. (IFSOAN; STI). Acoustooptic properties and photoelasticity of TlPbI(sub3) crystals. KRISA, no. 1, 1988, 247-248.
349. Zhamaletdinova, Ye.V.; Kozlov, A.I.; Plesskiy, V.P. (IRE). Thermal excitation of sound in fiber lightguides. AKZHA, no. 1, 1988, 178-179.



## G. SPECTROSCOPY OF LASER MATERIALS

350. Alferov, Zh.I.; Andreyev, V.M.; Vodnev, A.A.; Larionov, V.R.; Nikitin, A.V.; Prutskikh, T.A.; Rumyantsev, V.D. (FTI). "Violet" pAlGaAs-pGaAs-nGaAs photoelements with ultrathin (30-300 angstroms) wideband layers. PZTFD, no. 1, 1988, 76-79.
351. Ashurov, M.Kh.; Zharikov, Ye.V.; Kalitin, S.P.; Kurbanov, A.M.; Nasyrov, I.N.; Osiko, V.V.; Prokhorov, A.M.; Khabibullayev, P.K.; Shcherbakov, I.A. (). Effect of chromium ions on the formation of color centers in yttrium scandium gallium garnet crystals. ZPSBA, v. 48, no. 1, 1988, 152-154.
352. Lisitsa, M.P.; Silenko, V.V.; Yurchenko, I.A. (IPANUK). Anti-Stokes luminescence from color centers in LiF. DANKA, v. 298, no. 5, 1988, 1116-1118.
353. Lunter, S.G.; Fedorov, Yu.K. (). Color centers and spectral properties of neodymium phosphate glasses. FKSTD, no. 1, 1988, 72-78.
354. Ponomarev, A.N.; Yuzhakov, V.I. (). Sensitized fluorescence of dye molecules in polymer matrices. ZPSBA, v. 48, no. 2, 1988, 242-248.
355. Sveshnikova, Ye.B.; Stroganov, A.A.; Timofeyev, N.T. (). Role of quasi-local vibrations in the deactivation of rare-earth element ions in fluoride bases. OPSPA, v. 64, no. 1, 1988, 73-78.

## H. ULTRASHORT PULSE GENERATION

356. Amerov, A.K.; Ovechko, V.S.; Strizhevskiy, V.L. (). Mechanism of generation of a picosecond spectral continuum from excitation of liquid CCl<sub>4</sub> by ultrashort laser pulses. KVELA, no. 33, 1987, 21-27. (RZFZA, 88/1L1176).
357. Andryunas, K.; Barila, A.; Vishchakas, Yu.; Mochalov, I.V.; Petrovskiy, G.T.; Syrus, V. (). Time characteristics of picosecond pulses from stimulated Raman scattering self-conversion of laser radiation. OPSPA, v. 64, no. 2, 1988, 397-401.
358. Bezrodnyy, V.I.; Tikhonov, Ye.A. (). Controlling the duration of an ultrashort pulse laser containing a Sagnac interferometer. ZPSBA, v. 48, no. 2, 1988, 208-212.

359. Burdulis, Sh.; Sinkyavichyus, G. (VilGU). Study on two-threshold mode locking and amplification of light pulses in YAG:Nd<sup>3+</sup> and YAL:Nd<sup>3+</sup> crystals. Cited in LFSBA, no. 1, 1988, 91.
360. Demchuk, M.I.; Manichev, I.A.; Mikhaylov, V.P.; Yumashev, K.V. (). Dynamics in the forming of pulse duration in solid-state lasers with passive mode-locking. KVELA, no. 33, 1987, 1-5. (RZFZA, 88/1L1168).
361. Demchuk, M.I.; Mikhaylov, V.P.; Manichev, I.A.; Yumashev, K.V.; Ishchenko, A.A.; Slominskiy, Yu.L. (). Simultaneous generation of ultrashort pulses in YAG:Nd<sup>3+</sup> lasers at two lasing transitions. ZPSBA, v. 48, no. 2, 1988, 318-320.
362. Dianov, Ye.M.; Karasik, A.Ya.; Mamyshev, P.V.; Onishchukov, G.I.; Prokhorov, A.M.; Stel'makh, M.F.; Fomichev, A.A. (). Forming of pico- and femtosecond pulses by nonlinear fiber optics. KVELA, no. 33, 1987, 5-13. (RZFZA, 88/1L1173).
363. Gulis, I.M.; Sayechnikov, K.A.; Tsvirko, V.A. (BGU). Generation of tunable ultrashort pulses with a high repetition rate in a resonator with a short baseline. VBMFA, no. 3, 1987, 26-28. (RZFZA, 88/1L1179).
364. Ishchenko, A.A.; Kuchma, I.G.; Mak, A.A.; Maslov, V.G.; Murzin, A.G.; Pivinskiy, Ye.G.; Prilezhayev, D.S.; Fromzel', V.A. (). Ultrashort pulse generation at 1.54  $\mu\text{m}$  by a passively Q-switched erbium glass laser. PZTFD, no. 1, 1988, 7-9.
365. Oganesyanyan, M.K.; Papazyan, T.A.; Sngryan, Ye.A. (). Picosecond pulse generator with a single-pulse of improved stability. VINITI. Deposit, no. 7629-V87. 29 Oct 1987, 7 p. (RZFZA, 88/2L1275).
366. Peshko, I.I.; Khizhnyak, A.I. (IFANUk). Ultrashort pulse generation of extremely short duration by solid-state lasers. IANFA, no. 2, 1988, 354-358.
367. Peshko, I.I.; Khizhnyak, A.I. (). Obtaining ultrashort pulses of extremely short duration in solid-state lasers. KVELA, no. 33, 1987, 14-20. (RZFZA, 88/1L1169).
368. Piskarskas, A.; Smil'gyavichyus, V.; Umbrasas, A. (VilGU). C-w parametric generation of picosecond light pulses. KVEKA, no. 2, 1988, 245-246.

369. Piskarskas,A.; Stabinis,A.; Yankauskas,A. (). Femtosecond parametric lasers. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM. 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 462-484. (RZELD, 88/1D114).*
370. Platonenko,V.T.; Tishina,Ye.N. (MGU). Numerical modeling of amplification of subnanosecond pulses in an excimer XeCl medium. *KVEKA, no. 2, 1988, 303-311.*
371. Stabinis,A. (VilGU). Phase phenomena in femtosecond light pulses. Cited in *LFSBA, no. 1, 1988, 79.*
372. Timofeyev,R.A.; Tolstorozhev,G.B. (IFANB). Using a Gires-Tournois interferometer for intracavity compression of femtosecond light pulses. *PZTFD, no. 3, 1988, 276-279.*
373. Vysloukh,V.A.; Dovchenko,D.N.; D'yakov,V.A.; Zheludev,N.I.; Muradyan,L.Kh.; Simonov,A.V. (MGU). Stabilization, efficient compression and control of the parameters of picosecond pulses in a fiberoptic compressor with a nonlinear crystal. *KVEKA, no. 2, 1988, 384-386.*
374. Wilhelmi,B. (). Generation, propagation and compression of femtosecond light pulses (in English). *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 414-444. (RZELD, 88/1D6).*
375. Yesipov,S.E. (IFTT). Energy relaxation of degenerate hot electrons. Waves from populated levels and Burgers turbulence along the energy axis. *ZETF, v. 94, no. 2, 1988, 80-87.*

#### J. CRYSTAL GROWING

#### K. THEORETICAL ASPECTS OF ADVANCED LASERS

376. Bazylev,V.A.; Tulupov,A.V. (IAE). Stimulated emission of "hot" electron beams in an undulator with a transverse magnetic field. *KVEKA, no. 1, 1988, 101-105.*
377. Bessonov,Ye.G.; Alekseyev,V.I. (FIAN). Source of electromagnetic radiation [in particular, synchrotron radiation]. *OTIZD, no. 27, 1987, 1113002. (RZFZA, 88/2V513).*
378. Levonyan,S.V.; Serov,A.V. (FIAN). Numerical calculation of the coherence factor in a microtron beam. *KRSFA, no. 10, 1987, 43-45. (RZFZA, 88/2L1006).*

379. Savchenko, M.A.; Pustovalov, V.V.; Chernikov, A.A. (MIREA). Theory of free-electron lasers with wideband resonators. DANKA, v. 298, no. 4, 1988, 850-854.

#### L. GENERAL LASER THEORY

380. Ambrazyavichyus, R.R.; Kabelka, V.I. (). Initial phases of development of lasing in pulsed solid-state lasers. LFSBA, no. 5, 1987, 617-625. (RZFZA, 88/1L1091).
381. Balkarey, Yu.I. (IRE). Injection laser with periodic modulation of parameters in a direction parallel to the mirrors. KVEKA, no. 1, 1988, 50-52.
382. Bondarenko, A.V.; Dan'shchikov, Ye.V.; Yelkin, N.N.; Lebedev, F.V.; Likhanskiy, V.V.; Napartovich, A.P.; Troshchiyeva, V.N. (IAE). Angular selection of radiation during regenerative amplification in a laser with an unstable resonator. KVEKA, no. 1, 1988, 30-36.
383. Borovskiy, A.V.; Galkin, A.L.; Korobkin, V.V.; Mokrov, V.B. (IOF). Spatial two-dimensional dynamics of stimulated emission in an active medium consisting of multilevel atoms. Scheme with radiative purification. IOF. Preprint, no. 183, 1987, 1-39. (RZFZA, 88/2L1034).
384. Bukhenskiy, M.F.; Novikov, V.D. (). Conferences on quantum electronics and related fields in 1988. KVEKA, no. 1, 1988, 239-240.
385. Bukhenskiy, M.F.; Polkovnikov, B.F. (GOI). Fifth All-Union Conference on Optics of Lasers, Leningrad, 12-16 Jan 1987. KVEKA, no. 2, 1988, 433-446.
386. Denisyuk, Yu.N. (biographic subject). (). The 60th birthday of Yuriy Nikolayevich Denisyuk. ZPSBA, v. 48, no. 1, 1988, 163-164.
387. Kneubuehl, F.K. (). Helical and linear distributed feedback lasers (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 111-114. (RZFZA, 88/2L1055).
388. Koryukin, I.V.; Khandokhin, P.A.; Khanin, Ya.I. (IPF). Periodic and chaotic pulsations in a single-mode homogeneously broadened laser. Three-level model and Lorentz model. IPF. Preprint, no. 161, 1987, 3-19. (RZFZA, 88/2L1033).
389. Kotomtseva, L.A.; Loyko, N.A.; Samson, A.M. (). Relaxation processes and instability in lasers. ZPSBA, v. 48, no. 2, 1988, 219-224.

390. Kruglik, G.S.; Skripko, G.A.; Shkadarevich, A.P. (). Recent achievements in tunable solid-state lasers. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 611-620. (RZELD, 88/1D108).
391. Metev, S. (). Trends of laser technology in microelectronics (in English). *Trends in Quantum Electronics*. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. *Proceedings. Bucharest, Central Inst of Physics*. West Berlin, Springer, 1986, 517-529. (RZFZA, 88/1L1347).
392. Orayevskiy, A.N. (FIAN). Gaussian beams and optical resonators. *Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom*. FIAN. *Trudy*, no. 187. Moskva, Nauka, 1988, 3-59.
393. Orayevskiy, A.N.; Protsenko, I.Ye. (FIAN). Explosive absorption. *Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom*. FIAN. *Trudy*, no. 187. Moskva, Nauka, 1988, 144-177.
394. Paskal', I.Yu.; Poyzner, B.N. (). Computer experiment for laboratory classwork on quantum radiophysics. *VINITI. Deposit*, no. 6863-V87, 24 Sep 1987, 15 p. (RZELD, 88/1D2).
395. Pokora, L. (). Device for high-power lasing pumped by electrons, deuterons and neutrons. *Patent Poland*, no. 130788, 31 Dec 1986. (RZFZA, 88/2L1110).
396. Ursu, I.; Lupei, V.I. (). Infrared solid state lasers (in English). *Trends in Quantum Electronics*. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. *Proceedings. Bucharest, Central Inst of Physics*. West Berlin, Springer, 1986, 37-67. (RZFZA, 88/2L1049).
397. Vishchakas, Yu.; Syrus, V. (). Stimulated Raman self-conversion of laser radiation. Possibilities for developing multifrequency solid-state lasers. *LFSBA*, no. 5, 1987, 547-558. (RZFZA, 88/1L1096).

## II. LASER APPLICATIONS

### A. BIOLOGICAL EFFECTS

398. Avramenko, S.P.; Tolstonogova, V.I.; Novokhatskiy, V.V.; Berger, N.K. (). Effective treatment of neurological syndromes of osteochondrosis of the spine by He-Ne laser radiation. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 86-88.
399. Berger, N.K.; Mil'chin, M.A.; Novokhatskiy, V.V. (). Experience in using the LG-78 laser to treat skin diseases. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 72-75.
400. Chebotarev, V.V.; Solyakova, Ye.I.; Kravchenko, V.O. (). Using lasers in the treatment of urethritis patients. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 64-69.
401. Garkavi, A.V.; Marennikov, S.I.; Tsys', O.N. (). Experience with the LG-75-1 laser for medical treatment on long sea voyages. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 119-123.
402. Gromov, V.V.; Absatarova, N.G.; Kuz'menko, V.G. (). Laser therapy in dermatology. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 56-64.
403. Ivanov, A.P.; Makarevich, S.A.; Khayrullina, A.Ya. (). Propagation of radiation in tissues and biological fluids with dense packing of particles. *ZPSBA*, v. 47, no. 4, 1987, 622-668.
404. Kalyagin, Ye.A.; Mel'nikov, V.Ya.; Sadovenko, S.N.; Ivanov, O.R. (). Experience with laser operations for primary glaucoma. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 112-114.

405. Khoroshilova, N.I. (). Using laser radiation in stomatology. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 98-100.
406. Kiselev, G.A.; Lebedev, O.I.; Pospelov, V.S.; Lukoshkin, A.V. (Omskmedinst). Experimental study on the effect of laser radiation on the distribution of medicinal drugs in eye tissues. *VEOFA*, no. 1, 1988, 40-42.
407. Kopvillem, U.Kh. (). Prospects for the development of medicine in the context of modern achievements in physics. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 4-19.
408. Kosilko, Z.A.; Kryzhanovskiy, S.P.; Ivanova, Ye.V.; Chudnovskiy, V.M. (). Experience with the LG-75 laser for patients requiring surgery under polyclinical conditions. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 76-81.
409. Litvinova, G.G.; Al'-Shayer, U.; Bakhodirova, R.V.; Mashtakov, D.M.; Bol'shunov, A.V. (VNIIGBol; PMMI). Comparative evaluation of the hypotensive effect of laser goniopuncture using various types of laser sources. *VEOFA*, no. 1, 1988, 18-20.
410. Maslova, M.G.; Ishchenko, V.N.; Lagutiya, V.L.; Polikutin, A.V. (). Using low-energy lasers to treat festering wounds and inflammation processes. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 81-86.
411. Olteanu, M.; Carstocea, B.; Pascu, M.L.; Dutu, D.; Draganescu, V.; Dabu, R.; Pascu, A. (). Laser applications in ophthalmology (in English). *Trends in Quantum Electronics. CCTQElec*, 2nd, Bucharest, 2-6 Sep 1985. *Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 539-549. (RZFZA, 88/1L1355).*

412. Osykhovskiy, A.L.; Dogadova, L.P.; Brilina, S.Yu.; Sus'kova, V.I. (). Combined laser stimulation in the treatment of central dystrophies of the retina. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 117-119.
413. Ovsyannikov, V.A. (NIIEA). Possible mechanism in the onset of cancer and selective action of laser radiation on metastasis. *IANFA*, no. 2, 1988, 312-315.
414. Plotnikov, O.L.; Chebotarev, V.V. (). Laser therapy of genital herpes patients. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 69-71.
415. Sluzhayev, I.F.; Pak, A.N.; Obukhova, G.G. (). Effect of low-intensity monochromatic red light from a helium-neon laser, on biochemical processes in tooth enamel and mixed saliva. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 100-112.
416. Smil'gyavichyus, V. (VilGU). Laser therapy of cancer. Cited in *LFSBA*, no. 1, 1988, 79.
417. Tikhomirova, N.M.; Osykhovskiy, A.L.; Tyatskin, V.A. (). Laser bioenergy therapy for traumas to the organs of sight. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 115-116.
418. Titov, V.A.; Ishchenko, V.N.; Dubinin, V.A. (). Laser therapy under ambulatory conditions for patients requiring mobility aids. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 88-93.
419. Tsareva, A.L.; Kryzhanovskiy, S.P.; Brikan, A.I. (). Laser therapy for diseases of the oral cavity. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgosmedinst. Vladivostok, 1988, 93-98.
420. Yevstigneyev, A.R.; Kholodnov, S.Ye. (). Thermodynamic effects in the action of pulsed laser radiation on biological tissues. *EOBMA*, no. 1, 1988, 77-78.



## B. COMMUNICATIONS SYSTEMS

421. Abdullayev, S.S.; Akhmadzhanov, T.; Mirzayev, A.T.; Khabibullayev, P.K. (IYaFANUz). Photocount statistics of intensity modulated radiation passing through a multimode lightguide. KVEKA, no. 2, 1988, 390-392.
422. Abramov, A.A.; Bubnov, M.M.; Vechkanov, N.N.; Vlasov, A.V.; Gur'yanov, A.N.; Dianov, Ye.M.; Inozemtsev, V.P.; Iovov, D.P.; Makarenko, A.Yu.; Myakov, V.N.; Starostina, T.M.; Troitskiy, B.B.; Shchebunayev, A.G. (IOF; IKhAN). Frost-proof fiberoptic cable. KVEKA, no. 1, 1988, 232-235.
423. Abramov, A.V.; Boganov, A.G.; Korniyenko, L.S.; Rudenko, V.S.; Rybaltovskiy, A.O.; Chernov, P.V. (IKhS; NIIYaF). Radiative color centers in KS-4V quartz glass and in fiber lightguides based on it. FKSTD, no. 1, 1988, 91-96.
424. Akhmediyev, N.N.; Korneyev, V.I.; Mitskevich, N.V. (MIET). N-modulation signals in single-mode optical fiber, allowing for nonlinearity. ZETFA, v. 94, no. 1, 1988, 159-170.
425. Aleksandrov, A.Yu.; Zalogin, A.N.; Kozel, S.M.; Listvin, V.N. (). Effect of irregularities in single-mode fiber lightguides, on the degree of polarization of radiation. OPSPA, v. 64, no. 1, 1988, 199-203.
426. Aleksandrov, A.Yu.; Zalogin, A.N.; Kozel, S.M.; Listvin, V.N. (). Effect of irregularities in single-mode fiber lightguides, on the degree of polarization of radiation. Difraktsiya i rasprostraneniye voln v neodnorodnykh sredakh. Moskva, 1987, 168-172. (RZFZA, 88/2L33).
427. Bahovec, I.; Bevc, D. (). Measuring the cutoff threshold of optical fiber (in Slovenian). ELVEA, no. 1-2, 1987, 115-117. (Referativnyy zhurnal. Svyaz', 88/2A154).
428. Belanov, A.S.; Dianov, Ye.M.; Solopov, V.M. (IOF). Method to detect dispersion characteristics in radially inhomogeneous lightguides. IOF. Preprint, no. 200, 1987, 1-31. (RZFZA, 88/2L37).
429. Belopotapova, Ye.N.; Falovskiy, V.F.; Zeyfas, A.I.; Dovchenko, N.K.; Lamekin, V.F. (). Rotating optical coupler. OTIZD, no. 22, 1987, 1317387. (Referativnyy zhurnal. Svyaz', 88/2A140).

430. Belous, A.I.; Grigoruk, V.I.; Zaporozhets, V.M.; Marchevskiy, F.N.; Timonin, P.V.; Strizhevskiy, V.L. (KGU). Nanosecond pulse compression in multimode fiber lightguides. KGU. Vestnik. Fizika, no. 28, 1987, 95-96. (RZFZA, 88/2L1369).
431. Belov, A.V.; Bubnov, M.M.; Gur'yanov, A.N.; Gusovskiy, D.D.; Mashinskiy, V.M.; Neustruyev, V.B.; Pimenov, V.G.; Timonin, D.A.; Khopin, V.F. (). Effect of the frequency of quartz reference tubes, on the optical losses in fiber lightguides. Vysokochistyye veshchestva, no. 5, 1987, 193-197. (Referativnyy zhurnal. Svyaz', 88/2A186).
432. Bufetova, G.A.; Sychugov, V.A.; Tishchenko, A.V.; Yaroshenko, T.Yu. (IOF). Geometric optic approach to combined waveguides in application. IOF. Preprint, no. 228, 1987, 3-34. (RZFZA, 88/2L41).
433. Dianov, Ye.M.; Kashin, V.V.; Perminov, S.M.; Perminova, V.N.; Rusanov, S.Ya.; Sysoyev, V.K. (IOF). Physical behavior of the preform-lightguide constriction zone under various thermal conditions of extraction. ZTEFA, no. 2, 1988, 363-370.
434. Dianov, Ye.M.; Mamyshev, P.V.; Prokhorov, A.M. (IOF). Nonlinear fiberoptics. KVEKA, no. 1, 1988, 5-29.
435. Fedoseyev, V.G.; Adamson, L.V. (). Coupling of directed modes in waveguide plane layered structures with absorbing elements and its use in integrated optics. Poluprovodniki i geteroperekhody. Tallin, 1987, 26-27. (RZFZA, 88/1L53).
436. Glebov, A.P.; Gol'tsman, N.P.; Kondrat'yev, Yu.N.; Petrovskiy, G.T.; Tavshunskiy, G.A. (OTANUz; GOI). Experimental equipment to measure the spectra of total optical losses in fiber lightguides subject to the action of radiation. IUZFA, no. 1, 1988, 77-79.
437. Golubev, P.N.; Kapranov, R.I.; Kvitenko, Yu.N. (). Optimizing the structural circuit of a fiberoptic channel for transmission of radar information. Teoriya i tekhnika radiolokatsii, radionavigatsii i radiosvyazi v grazhdanskoy aviatsii. Riga, 1986, 29-33. (Referativnyy zhurnal. Svyaz', 88/2A50).
438. Golubev, Ye.V.; Dianov, Ye.M.; Kashin, V.V.; Perminov, S.M.; Perminova, V.N.; Rusanov, S.Ya.; Sysoyev, V.K. (IOF). Thermophysical processes in the extraction of quartz lightguides. TVYTA, no. 2, 1988, 370-378.

439. Gushchenskov, A.V.; Pilipovich, V.A.; Sagaydak, V.I.; Shcherbak, Yu.M. (). Microprocessor control of an acoustooptic character generator in a laser printer. VBSFA, no. 4, 1987, 58-62. (RZFZA, 88/1A297).
440. Hoff, F. (). Current state of quartz optical lightguides and the future of new technologies (in Czech). SLOZA, no. 7, 1987, 316-321. (Referativnyy zhurnal. Svyaz', 88/2A192).
441. Kalmykov, I.V.; Klepikova, N.L.; Lamtyugina, N.P.; Prokhorov, A.M.; Simachev, N.D. (IOF). Using microcomputers to study fiberoptic elements. PRTEA, no. 1, 1988, 71-74.
442. Kazakevich, A.V.; Mironos, A.V.; Smirnov, V.L.; Filimonova, L.A. (KGPI). Holographic matching elements for input and output of radiation from waveguides. VINITI. Deposit, no. 7138-V87, 6 Oct 1987, 8 p. (RZFZA, 88/1L835).
443. Kiselev, A.V.; Prokhorov, A.M.; Shcherbakov, Ye.A. (IOF). Intensity distribution of surface light waves in the focal region of a geodetic  $\text{LiNbO}_3:\text{Ti}$  lens. KVEKA, no. 2, 1988, 387-389.
444. Luksha, O.V. Firtsak, Yu.Yu.; Smirnova, A.S.; Mironos, A.V.; Tarnay, A.A.; Ivanitskiy, V.P.; Fennich, P.A.; Prigara, I.V. (). Forming of structurally homogeneous thin-film waveguides and integrated optical elements consisting of germanium-containing chalcogenide glassy semiconductors. KVELA, no. 32, 1987, 83-88. (RZFZA, 88/1L846).
445. Makkaveyev, V.I.; Petrova, N.N. (). Comparative sensitivity of optimal digital lightguide communication systems. IVUZB, no. 9, 1987, 3-7. (RZFZA, 88/1L723).
446. Manthe, K.H.; Mueller, K. (). Nozzle for applying coatings on preforms. Patent GDR, no. 248375, 5 Aug 1987. (Referativnyy zhurnal. Svyaz', 88/2A198).
447. Marchuk, V.S. (KhIRE). Damping of electromagnetic waves in cylindrical lightguides with internal conducting walls. UkrNIINTI. Deposit, no. 2706-Uk87, 24 Sep 1987, 10 p. (Referativnyy zhurnal. Svyaz', 88/2A144).
448. Marchuk, V.S.; Koval'chuk, V.K. (KhIRE). Effect of an optical cable on the phase characteristics of an analog optical communications system. UkrNIINTI. Deposit, no. 2708-Uk87, 24 Sep 1987, 10 p. (Referativnyy zhurnal. Svyaz', 88/2A199).

449. Mel'guy, M.A.; Osipov, A.A. (IPFANBel). Optoelectronic amplifier. OTIZD, no. 33, 1987, 1336202. (Referativnyy zhurnal. Svyaz', 88/2A209).
450. Meygas, K.B.; Zakharov, B.V.; Khinrikus, Kh.V. (TPI). Noise in photodetection under c-w joint operating conditions of a laser. TPI. Trudy, no. 639, 1987, 9-14. (RZELD, 88/2D324).
451. Novakovskiy, S.V. (MEIS). Problems in developing broadcast high-definition television systems. TKTEA, no. 2, 1988, 3-6.
452. Petrun'kin, V.Yu.; Selishchev, A.V.; Shcherbakov, A.S. (LPI). Study on soliton propagation modes of ultrashort optical pulses in single-mode fiber lightguides. IANFA, no. 2, 1988, 364-368.
453. Petrun'kin, V.Yu.; Selishchev, A.V.; Shcherbakov, A.S. (LPI). Evaluating the conditions for propagation of optical solitons in single-mode fiber lightguides. IVYRA, no. 1, 1988, 112-114.
454. Romaniuk, R. (). Lightguide telephone (in Polish). PZTKA, no. 6, 1987, 180-186, 11. (Referativnyy zhurnal. Svyaz', 88/2A60).
455. Semenov, N.A. (). Mode frequency characteristics of multimode lightguides. RATEA, no. 10, 1987, 67-70. (RZFZA, 88/1Zh344).
456. Semenov, N.A. (). Methods to calculate the transmission characteristics of multimode lightguides with non-optimal refractive index profiles. EKVZA, no. 10, 1987, 40-43. (Referativnyy zhurnal. Svyaz', 88/2A93).
457. Sharle, D.L. (). Design and parameters of optical cables from the Svyaz' [Communications]-86 International Exhibition. ELKTA, no. 1, 1988, 58-64.
458. Shcherbina, V.I. (VNIITR). Contemporary and prospective means for digital recording. TKTEA, no. 1, 1988, 33-42.
459. Sukhoivanov, I.A.; Kontar', A.A.; Kublik, A.V.; Makarevich, V.S. (). Comprehensive approach to studies on short fiberoptic communication lines. RTKHA, no. 83, 1987, 52-58. (Referativnyy zhurnal. Svyaz', 88/2A11).
460. Tarasov, R.P. (). Field deformation and radiation losses in spatially bent optical fiber. OPSPA, v. 64, no. 1, 1988, 204-208.

461. Varanavichyus,A.; Podenas,D.; Yankauskas,A. (VilGU). Efficient phase modulation of picosecond light pulses in short lightguides. LFSBA, no. 1, 1988, 91-92.
462. Vasil'yev,V.N.; Dul'nev,G.N.; Khoruzhnikov,S.E. (). Study on a modified chemical vapor deposition method to produce preforms for fiber lightguides. Part 1. VINITI. Deposit, no. 8082-V87, 17 Nov 1987, 15 p. (Referativnyy zhurnal. Svyaz', 88/2A195).
463. Vasil'yev,V.N.; Dul'nev,G.N.; Naumchik,V.D. (LITMO). Thermal conditions of a resistive arm to draw out optical fiber. Part 1. Generalized mathematical model of the heater. INFZA, v. 54, no. 2, 1988, 248-256.
464. Vasil'yev,V.N.; Vorob'yev,A.N.; Dul'nev,G.N.; Khoruzhnikov,S.E. (). Study on a modified chemical vapor deposition method to produce preforms for fiber lightguides. Part 2. VINITI. Deposit, no. 8083-V87, 17 Nov 1987, 15 p. (Referativnyy zhurnal. Svyaz', 88/2A194).
465. Volchkov,V.P.; Gerbin,I.A.; Lisitsa,Yu.V. (). Experimental and calculative input control of nonlinearity of optoelectronic communication channels. IZTEA, no. 2, 1988, 52-53.
466. Voyevodin,V.G.; Gribenyukov,A.I.; Morozov,A.N.; Chaldysheva,N.V. (FTIT). Obtaining planar waveguide structures of  $Cd_{(sub)x}Zn_{(sub)1-x}GeP_{(sub)2}/ZnGeP_{(sub)2}$ . ZTEFA, no. 2, 1988, 419-420.
467. Voynov,V.A.; Shtaveman,Ye.V.; Falovskiy,V.F.; Shcherbakov,V.N.; Shubin,O.K. (). Device for centrifugal processing of spherical preforms. OTIZD, no. 27, 1987, 1324827. (Referativnyy zhurnal. Svyaz', 88/2A177).
468. Yesayan,A.A.; Zel'dovich,B.Ya. (IPMe). Depolarization of radiation in ideal multimode graded-index lightguides. KVEKA, no. 1, 1988, 235-236.
469. Zamchevskiy,V.V. (ViPI). Using codes with irrational bases in fiberoptic information transmission systems. UkrNIINTI. Deposit, no. 2751-Uk87, 28 Sep 1987. (Referativnyy zhurnal. Svyaz', 88/2A10).

## C. BEAM PROPAGATION

### 1. Theory

470. Arutyunyan, V.M.; Arutyunyan, I.G.; Ishkhanyan, S.P.; Papazyan, T.A. (). Stimulated change in the polarization of laser pulses in sodium vapor. VINITI. Deposit, no. 7103-V87. (ZPSBA, v. 48, no. 1, 1988, 155).
471. Barabanenkov, Yu.N. (VNITsISPIV). Asymptotically accurate model of the steady-state theory of radiation transfer in a randomly variable medium. DANKA, v. 295, no. 1, 1987, 79-82.
472. Barabanenkov, Yu.N.; Ozrin, V.D.; Staynova, Ye.G. (). Various effects of multiple scattering of waves and particles in dense amorphous media. MTRLB, no. 10, 1987, 10-21. (RZFZA, 88/2L13).
473. Barsukov, S.S.; Dymshakov, V.A. (IAE). Automated device for laser excitation of high-amplitude surface acoustic waves and measurement of their parameters. IAE. Preprint, no. 4513/14, 1987, 1-9. (RZFZA, 88/2L828).
474. Berezhnaya, V.P.; Men'shakov, V.S.; Shermergor, T.D. (). Dependence of double scattering echo signals on the indicatrix of laser radiation. Fizicheskiye osnovy mikroelektronnykh priborov. MIET. Moskva, 1987, 45-49. (RZELD, 88/2D303).
475. Dement'yev, A.S.; Domarkene, D.P. (). Focal shift in the maximum of intensity in focused laser beams. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 90-94. (RZELD, 88/1D10).
476. Filippov, V.V. (). Side displacement and splitting of beams under total reflection, allowing for interference flux. ZPSBA, v. 47, no. 3, 1987, 500-503.
477. Glotov, A.G.; Krindach, D.P.; Sidorin, V.S. (MGU). Compensating for divergence of light beams under thermal defocusing in a steady-state mode. VMUFA, no. 1, 1988, 38-42.
478. Gorelov, V.P.; Piskunov, V.N. (). Formalism for the solution of a series of problems in the transfer theory of polarized light. Voprosy atomnoy nauki i tekhniki. Teoreticheskaya i prikladnaya fizika, no. 1, 1987, 17-21. (RZFZA, 88/1L18).

479. Goryachev, B.V.; Larionov, V.V.; Mogil'nitskiy, S.B.; Savel'yev, B.A. (). New method to calculate optical radiation transfer in scattering media limited by reflecting surfaces. OPSPA, v. 64, no. 2, 1988, 407-409.
480. Goryachev, B.V.; Larionov, V.V.; Mogil'nitskiy, S.B.; Savel'yev, B.A.; Kutlin, A.P. (). Monte-Carlo confirmation of a photometric invariant for spatially bounded media. IVUFA, no. 8, 1987, 102-104. (RZFZA, 88/1L19).
481. Grigor'yev, S.F.; Zaskal'ko, O.P. (FIAN). Self-precession and degeneration of the polarization ellipse of a light wave in a medium with Kerr nonlinearity. KRSFA, no. 9, 1987, 16-18. (RZFZA, 88/1L1248).
482. Guminetskiy, S.G.; Zhaitaryuk, V.G. (). Reflection of radiation by rough surfaces. ZPSBA, v. 48, no. 2, 1988, 302-308.
483. Il'ina, S.G. (). Description of amplification of light during reflection through a complex refraction angle. OPSPA, v. 64, no. 1, 1988, 128-130.
484. Knyaz'kov, A.V.; Lobanov, M.N. (). Effect of photoinduced light scattering on diffraction and energy exchange of light beams in photorefractive media. OPSPA, v. 64, no. 2, 1988, 410-414.
485. Kopilevich, Yu.I. (). Delta-correlation approximation for statistical approximation of light waves over short paths in randomly inhomogeneous media. OPSPA, v. 64, no. 1, 1988, 104-111.
486. Korobkin, V.V.; Kostikov, K.A.; Margolin, L.Ya.; Polonskiy, L.Ya.; Pyatnitskiy, L.N. (IVTAN). Scattering of heating radiation under optical breakdown of gases at atmospheric pressure in an axicon caustic. IVTAN. Preprint, no. 5/215, 1987, 2-30. (RZFZA, 88/1G406).
487. Kruglov, V.I.; Volkov, V.M.; Vlasov, R.A.; Drits, V.V. (IFANB). Structure of spiral light beams in self-excited wave propagation and collapse. IFANB. Preprint, no. 490, 1987, 1-34. (RZFZA, 88/2L1379).
488. Mashev, L.; Popov, E. (). Phenomenological approach to the resonance anomalies in relief diffraction gratings (in English). Bolgarskiy fizicheskiy zhurnal, no. 4, 1987, 342-348. (RZFZA, 88/2L7).

489. Mazhukin, V.I.; Samokhin, A.A. (). Mathematical modeling of phase transitions and plasma formation under the action of laser radiation on absorbing condensed media. *Matematicheskoye modelirovaniye. Nelineynyye differentsial'nyye uravneniya matematicheskoy fiziki*. Moskva, 1987, 191-244. (RZFZA, 88/1G407).
490. Merkishin, G.V. (). Phase and phase interference methods to measure the attenuation of radiation in remote sections of optical media. *RATEA*, no. 9, 1987, 42-44. (RZELD, 88/1D140).
491. Pikulik, L.G.; Rudnik, K.I.; Chernyavskiy, V.A. (). Study on the rotation of the plane of polarization of light in amplifying solutions of organic compounds. *Lazery i opticheskaya nelineynost'*. CBLSLONe, 7th, Grodno, 1985. *Materialy*. Minsk, 1987, 129-133. (RZFZA, 88/2L1232).
492. Sheregiy, Ye.M.; Pan'kiv, P.M.; Leshko, O.M.; Odinak, Ya.M. (DGPI). Infrared laser probe: device to study the homogeneity of distribution of photoelectric parameters of semiconductor materials. *UkrNIINTI*. Deposit, no. 2986-Uk87, 26 Oct 1987, 9 p. (RZFZA, 88/2L1508).
493. Sotskiy, B.A.; Dmitriyev, V.A. (). Coherent properties of optical fields with anti-correlations in higher orders. *OPSPA*, v. 64, no. 1, 1988, 112-114.
494. Stashkevich, A.A. (). Diffraction of light by spin waves in ferromagnetic thin films. *OPSPA*, v. 64, no. 1, 1988, 93-98.
495. Vdovin, V.A.; Sorokin, Yu.M. (). Dynamics of the formation of aerosol microflares under low-threshold optical breakdown. *VINITI*. Deposit, no. 7038-V87, 30 Sep 1987, 28 p. (RZFZA, 88/1G408).
496. Vysloukh, V.A.; Ivanov, A.V. (MGU). Statistical characteristics of optical solitons. *IANFA*, no. 2, 1988, 359-363.
497. Yudovich, M.Ye.; Zubkov, V.A.; Saydov, G.V. (). Measuring the absolute phase shifts of light waves under frustrated total internal reflection. *OPSPA*, v. 64, no. 1, 1988, 131-133.

## 2. Propagation in the Atmosphere

498. Abramochkin, A.I.; Zanin, V.V.; Penner, I.E.; Zorin, V.D.; Tikhomirov, A.A.; Shamanayev, V.S. (). The Makrel'-2 airborne polarization lidar. *Apparatura distantsionnogo zondirovaniya parametrov atmosfery*. Tomskiy filial SOAN. Tomsk, 1987, 5-41.



499. Abramovskiy, A.P.; Bozhenko, A.L. (). Instrument to measure the size and speed of raindrops. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 18-21.
500. Alekseyev, A.N.; Shishlov, V.I. (). Wideband instrument to measure lidar signals. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 148-154.
501. Azbukin, A.A.; Kutelev, A.F.; Mikheyev, Yu.S.; Letlin, Yu.L.; Tatur, V.V. (). Beam scanning device for laser navigational systems. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 114-119.
502. Babichenko, S.; Dudel'zak, A.; Saar, K. (). Effect of the sea state on the echo signal in remote laser probing. ETFMB, no. 3, 1987, 319-323. (RZGFA, 88/1V237).
503. Balandin, S.F.; Kopytin, Yu.D.; Litnevskiy, L.A.; Tyul'kin, I.S.; Khan, V.A.; Yudanov, V.A. (IOA). Effect of increasing the lifetime of optical breakdown plasma in air. PZTFD, no. 1, 1988, 45-48.
504. Balandin, S.F.; Kopytin, Yu.D.; Tikhomirov, I.A.; Khan, V.A. (). Optical breakdown and transport properties of high-energy beam channels. VINITI. Deposit, no. 7561-V87, 28 Oct 1987, 20 p. (RZFZA, 88/2L927).
505. Balandin, S.F.; Kopytin, Yu.D.; Tikhomirov, I.A.; Tyul'kin, I.S.; Khan, V.A.; Yudanov, V.A. (IOA). Long-lived aerosol plasma induced by pulsed CO<sub>2</sub> laser radiation. ZTEFA, no. 2, 1988, 324-327.
506. Belov, M.L.; Orlov, V.M.; Samokhvalov, I.V. (). Spatial structure of illumination intensity behind the receiving lens at flat angles of ranging of randomly rough surfaces in the atmosphere. OPSPA, v. 64, no. 2, 1988, 458-459.
507. Bochkarev, N.N.; Zemlyanov, A.A.; Krasnenko, N.P.; Pogodayev, V.A.; Rozhdestvenskiy, A.Ye. (IOA). Acoustic response of aerosol media under pulsed optical excitation. PZTFD, no. 1, 1988, 25-29.
508. Bukatyy, V.I.; Krasnopevtsev, V.N.; Shayduk, A.M. (). Vaporization of hot hydrocarbon particles in intense optical fields. FGVZA, no. 1, 1988, 41-48.

509. Bushuyev, V.D.; Naats, I.E. (). Evaluating the spectral aerosol optical characteristics from nephelometric measurements using the inverse problem of light scattering. ZPSBA, v. 48, no. 2, 1988, 274-278.
510. Danichkin, S.A.; Sklyadneva, T.K. (). Mathematical models of lidar signals. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 29-34.
511. Gordin, M.P.; Sokolov, A.V.; Strelkov, G.M. (). Numerical modeling of the propagation of high-power laser beams in the atmosphere (review). RAELA, no. 11, 1987, 2242-2254. (RZFZA, 88/2L913).
512. Kabelka, V.; Rimkyavichyus, R.; Yakubenas, R. (IFANLi). Mobile differential absorption lidar to measure the distribution of sulfur dioxide in the atmosphere. PRTEA, no. 1, 1988, 240.
513. Kol'yakov, S.F.; Malyavkin, L.P. (ISAN). Lidar differential absorption using a TEA CO<sub>2</sub> laser. KVEKA, no. 1, 1988, 212-217.
514. Kopytin, Yu.D.; Kokhanov, V.I.; Pogodayev, V.A.; Shishigin, S.A. (IOA). Study on glow from sites of optical breakdown of air induced by pulsed CO<sub>2</sub> laser radiation. KVEKA, no. 2, 1988, 405-411.
515. Kopytin, Yu.D.; Nikolayev, M.V. (). Laser methods and equipment for IR probing of the atmosphere (review). VINITI. Deposit, no. 4772-V87, 29 Jun 1987. (IVUFA, no. 1, 1988, 125).
516. Merkulov, V.A. (GOI). Improving the accuracy of photoelectric devices operating in a turbulent atmosphere, to monitor rectilinearity. OPMPA, no. 1, 1988, 2-5.
517. Nebol'sin, M.F. (). Transparency of aqueous aerosols in a pulsed CO<sub>2</sub> laser radiation field. VINITI. Deposit, no. 4773-V87, 29 Jun 1987. (IVUFA, no. 1, 1988, 126).
518. Prishivalko, A.P.; Semenov, L.P.; Astaf'yeva, L.G.; Leyko, S.T. (IFANB). Thermal destruction of spherical ice particles under the action of 10.6  $\mu\text{m}$  radiation. INFZA, v. 54, no. 1, 1988, 103-108.
519. Shevchenko, T.B.; Shugan, I.V. (IOF). Effect of nonlinear surface gravity waves on the statistical characteristics of a random sea surface. KRSFA, no. 1, 1988, 9-11.

520. Taklaya, A.A. (TPI). Laws governing the distribution of optical signal fading in a turbulent atmosphere. TPI. Trudy, no. 639, 1987, 51-55. (RZELD, 88/2D301).
521. Taklaya, A.A. (TPI). Formal description of random intensity distribution in the cross-section of a laser beam [propagating in a turbulent atmosphere]. TPI. Trudy, no. 639, 1987, 21-25. (RZFZA, 88/1L940).
522. Yakushev, G.G.; Kolpakov, V.I.; Zhukova, Ye.N.; Pyatnitskiy, L.N.; Kul'beda, V.Ye. (IVTAN). Laser shadow method with photoelectric recording and its use for diagnostics of a laser spark in air. IVTAN. Preprint, no. 5/221, 1987, 1-48. (RZFZA, 88/2L92).
523. Zanin, V.V.; Klimov, V.N.; Kopytin, Yu.D.; Korol'kov, V.A.; Pankratev, V.V. (). Spectrochemical lidar using a neodymium laser. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 11-17.
524. Zuyev, V.I. (IOA). Thermal self-action of vertical laser beams in the presence of photoabsorption convection. KVEKA, no. 2, 1988, 377-379.

### 3. Propagation in Liquids

525. Dolgiy, S.I.; Dudel'zak, A.Ye.; Zuyev, V.Ye.; Ippolitov, I.I.; Klimkin, V.M.; Nikolayev, V.N.; Chikurov, V.A.; Khmel'nitskiy, G.S. (IOA). Lidar studies on fluorescence of the water in the Baltic Sea. OKNOA, no. 5, 1987, 857-860.
526. Gurskiy, I.M. (IFANB). Device to measure the frequency contrast characteristics of a water layer. OTIZD, no. 26, 1987, 1329925. (RZFZA, 88/2L930).
527. Shapovalov, S.A. (SimGU). Laser interferometer study on internal waves and the fine vertical structure of density fields of seawater. UkrNIINTI. Deposit, no. 2729-Uk87, 25 Sep 1987, 17 p. (RZGFA, 88/2V31).
528. Vitshas, A.F.; Dmitriyev, N.I.; Korneyev, V.V.; Kostylev, A.A.; Menakhin, L.P.; Soroka, A.M. (VEI). Explosive boiling of liquids in a closed volume under the action of laser radiation. PZTFD, no. 2, 1988, 157-162.
529. Viznyuk, S.A.; Sukhodol'skiy, A.T. (IOF). Steady-state photohydraulic effect in a continuously heated liquid flow. KRSFA, no. 1, 1988, 30-31.

530. Vodop'yanov, K.L.; Karasev, M.Ye.; Kulevskiy, L.A.; Lukashev, A.V.; Toker, G.R. (IOF). Dynamics of the interaction between laser radiation at 2.94  $\mu\text{m}$  and thin layers of liquid water. PZTFD, no. 4, 1988, 324-329.

#### 4. Adaptive Optics

531. Arutyunov, Yu.A.; Zherdiyenko, V.V.; Khizhnyak, A.I. (IFANUK). Transient multimode interactions in inertial nonlinear media. IANFA, no. 2, 1988, 389-392.
532. Baranov, Yu.V.; Novikov, S.B.; Ovchinnikov, A.A. (). Improving the resolution of a telescope by means of a wavefront inclination compensator. Metody povysheniya effektivnosti opticheskikh teleskopov. Moskva, 1987, 73-79. (RZFZA, 88/2L763).
533. Belous, A.I.; Grigoruk, V.I.; Pasechnyy, V.A.; Strizhevskiy, V.L.; Chernyshev, V.A. (KGU). Suppression of phase noise in the propagation of giant laser pulses in optical fiber using wavefront reversal. KVEKA, no. 1, 1988, 180-181.
534. Galstyan, T.V.; Zel'dovich, B.Ya.; Nemkova, Ye.A.; Sukhov, A.V. (IPMe). Transient self-diffraction of forward waves by volume orientation gratings in nematics. ZTEFA, no. 1, 1988, 212-215.
535. Galushkin, M.G.; Nikitin, V.Yu.; Orayevskiy, A.N. (FIAN). Wavefront reversal of light waves from degenerate four-wave mixing in an amplifying medium of chemical HF lasers. KVEKA, no. 1, 1988, 153-160.
536. Gan, M.A.; Perveyev, A.F. (). Kinoform optics: properties and problems of rational application. IANFA, no. 2, 1988, 210-216.
537. Gorelik, S.L. (). Optoelectronic locally adaptive measuring systems for image processing. Adaptivnyye metody obrabotki izobrazheniy. IPPI. Moskva, Nauka, 1988, 74-115.
538. Iliyeva, M.G. (). Synthesized and adaptive filters for preliminary processing in character recognition. Adaptivnyye metody obrabotki izobrazheniy. IPPI. Moskva, Nauka, 1988, 175-185.
539. Kabanov, V.V.; Onoshko, R.N.; Rubanov, A.S.; Tolstik, A.L. (). Four-wave mixing under conditions of diffuse erasure of small-scale amplitude phase gratings. Lazery i opticheskaya nelineynost'. CBLSLONe, 7th, Grodno, 1985. Materialy. Minsk, 1987, 79-83. (RZFZA, 88/2L1328).

540. Karnaukhov, V.N. (). Digital modeling of adaptive optical image processing systems. *Adaptivnyye metody obrabotki izobrazheniy*. IPPI. Moskva, Nauka, 1988, 149-175.
541. Kim, V.; Yaroslavskiy, L.P. (). Range algorithms for image processing. *Adaptivnyye metody obrabotki izobrazheniy*. IPPI. Moskva, Nauka, 1988, 35-73.
542. Kirakosyants, V.Ye.; Loginov, V.A. (). Optimal algorithms of measurement and wavefront reversal under a priori indeterminacy in the pickup signal statistics. *KVEKA*, no. 1, 1988, 198-202.
543. Kliment'yev, S.I.; Kuprenyuk, V.I.; Sherstobitov, V.Ye. (). Numerical modeling of a resonator with a wavefront reversing mirror using a phase Fourier corrector at a low Fresnel number. *KVEKA*, no. 1, 1988, 161-163.
544. Kolesnikov, A.P.; Mukhametzyanov, I.A.; Mukharlyamov, R.G. (). Control of adaptive optical systems with phase modulation. Part 1. *Problemy mekhanicheskogo upravleniya dvizheniya . Nelineynnye dinamicheskiye sistemy*. Perm', 1987, 53-59. (RZFZA, 88/1L763).
545. Kolesnikov, A.P.; Mukhametzyanov, I.A.; Mukharlyamov, R.G. (). Control of adaptive optical systems. *Problemy mekhanicheskogo upravleniya dvizheniya . Nelineynnye dinamicheskiye sistemy*. Perm', 1987, 60-68. (RZFZA, 88/1L762).
546. Kovalev, V.I.; Platov, A.V.; Suvorov, M.B. (FIAN). Wavefront reversal at 10.6  $\mu\text{m}$  in InAs in a CO<sub>2</sub> laser resonator. *IANFA*, no. 2, 1988, 383-388.
547. Kunchev, R.K. (). Adaptive methods for processing of television images using local differences. *Adaptivnyye metody obrabotki izobrazheniy*. IPPI. Moskva, Nauka, 1988, 115-148.
548. Kuzin, Ye.A.; Petrov, M.P.; Fotiadi, A.A. (FTI). Study on fiberoptic stimulated Brillouin amplifiers. *ZTEFA*, no. 2, 1988, 335-342.
549. Nikolov, I.D. (). Optical elements and systems for adaptive image processing. *Adaptivnyye metody obrabotki izobrazheniy*. IPPI. Moskva, Nauka, 1988, 186-222.
550. Odulov, S.G.; Soskin, M.S.; Khizhnyak, A.I. (IPANUK). Lasers using dynamic gratings. *IANFA*, no. 2, 1988, 231-238.

551. Rubtsova, I.L.; Khizhnyak, A.I. (IFANUk). Multistability in optical systems containing dynamic holograms. UFIZA, no. 2, 1988, 204-207.
552. Sokolinov, G.I. (). Means and devices for adaptive and controlled optical image processing systems. Adaptivnyye metody obrabotki izobrazheniy. IPPI. Moskva, Nauka, 1988, 222-243.
553. Sukhorukov, A.P.; Trofimov, V.A. (MGU). Mathematical modeling of systems to compensate for distortions in light beams by means of flexible and segmented mirrors. IANFA, no. 2, 1988, 377-382.
554. Trofimov, V.A. (MGU). Compensation of thermal defocusing of profiled light pulses restricted by a wavefront. Numerical experiment. VMUFA, no. 5, 1987, 36-40. (RZFZA, 88/1L756).
555. Vitkus, R.Yu.; Yaroslavskiy, L.P. (). Adaptive linear filters for image processing. Adaptivnyye metody obrabotki izobrazheniy. IPPI. Moskva, Nauka, 1988, 6-35.
556. Vlasov, R.A.; Gadomskiy, O.N.; Gadomskaya, I.V.; Samartsev, V.V. (). Nonlinear optical phenomena based on laser-induced phase memory in the surface of resonance media. ZPSBA, v. 48, no. 1, 1988, 38-45.
557. Volkova, Ye.A. (). Wavefront reversal of focused beams at the pumping source. IANFA, no. 2, 1988, 276-280.
558. Vorontsov, M.A.; Matveyev, A.N.; Sivokon', V.P. (MGU). Phase reconstruction from recorded intensity distributions. DANKA, v. 296, no. 4, 1987, 842-846.
559. Yeliseyev, V.V.; Zhukov, N.N.; Zaskal'ko, O.P.; Zozulya, A.A.; Tikhonchuk, V.T. (FIAN). Study on self-reversal of light beams under parametric generation of stimulated Brillouin scattering. IANFA, no. 2, 1988, 393-395.

#### D. COMPUTER TECHNOLOGY

560. Akhmedzhanov, I.M.; Bozhevol'nyy, S.I.; Zaytsev, S.V. (YaPI). Bandwidth of acoustooptic correlators with time integration. ZTEFA, no. 8, 1987, 1661-1664.
561. Akimova, G.A.; Syrykh, Yu.P.; Frolov, A.V. (). Reconstructing a two-dimensional object by the module of its Fourier transform. AVMEB, no. 1, 1988, 85-88.

562. Alkarov, I. Sh.; Baiyev, M. M.; Zarnipov, A.; Ibragimov, V. Yu.; Rubinov, V. M. (). Photocontrolled memory structure using switching chalcogenide films. AVMEB, no. 5, 1987, 35-38.
563. Bakut, P. A.; Pakhomov, A. A.; Ryakhin, A. D.; Sviridov, K. N.; Ustinov, N. D. (). Reconstructing an image in terms of the phase of its Fourier spectrum. OPSPA, v. 64, no. 1, 1988, 165-169.
564. Berezhnoy, A. A. (). Functional conversion of coherent optical signals based on the anisotropy of the electrooptical effect in crystals. IANFA, no. 2, 1988, 257-265.
565. Berkovskaya, K. F.; Kirillova, N. V.; Klyachkin, L. Ye.; Sukhanov, V. L. (). Technological possibilities for electric decoupling of photodetector mosaic elements used for optical image processing systems. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 142-155.
566. Berkovskaya, K. F.; Kirillova, N. V.; Podlavskin, B. G.; Stolovitskiy, V. M.; Sukhanov, V. L.; Agafonov, V. Ye.; Trofimov, V. P. (). Design of a multielement photodetector-multiscan. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 155-160.
567. Dumarevskiy, Yu. D.; Kovtonyuk, N. F. (). Metal-dielectric-semiconductor/liquid-crystal structures in large-screen information display systems. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 131-135.
568. Galanov, A. N.; Ivanchenkov, V. P.; Stoyanov, A. K. (). Programmed correction of phase inhomogeneities in space-time light modulators during image processing in hybrid optoelectronic systems. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 60-69.
569. Golub, M. A.; Kazanskiy, N. L.; Sisakyan, I. N.; Soyfer, V. A. (). Computational experiment with planar optic elements. AVMEB, no. 1, 1988, 70-82.
570. Gurevich, S. B.; Nikitin, V. V.; Rapoport, B. I. (). Small-scale input device for an optoelectronic system to process television images. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 69-77.

571. Gurevich, S.B.; Ochin, Ye.F. (). Current status and prospects for development of image processing systems. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 5-19.
572. Herden, A.; Tschudi, T. (). Analog optical computing (in English). Trends in Quantum Electronics. CCTQElec, 2nd Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 369-383. (RZFZA, 88/2L760).
573. Korneyev, S.S. (MIIT). Information display in a holographic correlator with a discrete space-time light modulator. VINITI. Deposit, no. 6391-V87, 1 Sep 1987, 20 p. (RZFZA, 88/1L728).
574. Korzhov, Ye.I.; Oparin, A.N.; Potaturkin, O.I. (). Lensless holographic correlator. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 30-37.
575. Odinaikov, S.B.; Petrushko, I.V.; Savitskiy, A.V.; Shchetinkin, V.S. (). Parallel consecutive optical correlator with a photoanisotropic medium. AVMEB, no. 5, 1987, 23-26.
576. Petrov, M.P.; Belotitskiy, V.I.; Kuzin, Ye.A.; Spirin, V.V. (). Optical logic elements using stimulated scattering of light in optical fiber. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 135-142.
577. Potaturkin, O.I.; Khudik, V.N. (). A posteriori differential processing of correlation functions. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 50-60.
578. Relin, V.F.; Sokolov, V.K.; Stolyarov, Yu.V. (). Optical reconstruction of images obtained in optical models from an x-ray absorption microscope. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 44-49.
579. Seleznev, V.N. (). Optical memory systems. Itogi nauki i tekhnika. Radiotekhnika, no. 38. VINITI. 1987, 108-159. (RZFZA, 88/2L745).
580. Smirnov, V.V. (). Realization of N-dimensional Fourier transforms in coherent optical systems. AVMEB, no. 5, 1987, 26-30.



581. Vasilenko, G.I.; Belinskiy, A.N.; Kogan, G.A.; Kochetkov, A.G.; Stuyt, V.A.; Shibalov, S.N. (). Optical and digital image processing in systems of remote probing of natural resources. *Opticheskaya i tsifrovaya obrabotka izobrazheniy*. OOFA. NSPGAN. Leningrad, Nauka, 1988, 19-29.
582. Vorontsov, M.A.; Dumarevskiy, Yu.D.; Pruidze, D.V.; Shmal'gauzen, V.I. (MGU). Self-excited wave processes in systems with optical feedback. *IANFA*, no. 2, 1988, 374-376.

#### E. HOLOGRAPHY

583. Akhmet'yanov, V.R.; Mel'nikov, B.G.; Pasturov, A.Ya. (). Improving the quality of radar images by means of radiohologram filtering. *Opticheskaya i tsifrovaya obrabotka izobrazheniy*. OOFA. NSPGAN. Leningrad, Nauka, 1988, 114-119.
584. Barmenkov, Yu.O.; Kozhevnikov, N.M.; Lipovskaya, M.Yu. (). Measuring the parameters of photorefractive media for dynamic hologram recording. *OPSPA*, v. 64, no. 1, 1988, 225-228.
585. Belyachits, A.Ch.; Kukharchik, P.D.; Semenchik, V.G. (). Digital reconstruction of multifrequency images. *Opticheskaya i tsifrovaya obrabotka izobrazheniy*. OOFA. NSPGAN. Leningrad, Nauka, 1988, 101-114.
586. Berezinskaya, A.M.; Dukhovnyy, A.M.; Stasel'ko, D.I. (). Effect of gas thermalization on the recording of thermal dynamic holograms. *ZTEFA*, no. 1, 1988, 94-101.
587. Berezinskaya, A.M.; Dukhovnyy, A.M.; Stasel'ko, D.I. (). Transitional recording modes of dynamic holograms by beams of partially coherent radiation. *ZTEFA*, no. 1, 1988, 102-107.
588. Boyarchuk, K.A.; Marakhonov, V.I. (IOF). Possibility of hologram recording by a PRIZ modulator. *KRSFA*, no. 1, 1988, 12-14.
589. Boyko, A.A.; Valakh, M.Ya.; Lisitsa, M.P.; Taranenko, V.B.; Tarasov, G.G.; Shpak, A.M. (). Diffraction of light by three-dimensional holographic gratings in alkali halide crystals with F(sub A) centers. *KVELA*, no. 33, 1987, 36-45. (RZFZA, 88/1L889).
590. Bykovskiy, Yu.A.; Kazakevich, A.V.; Lamekin, V.F.; Mironos, A.V.; Smirnov, V.L. (). Study on the information characteristics of waveguide holographic systems. *AVMEB*, no. 1, 1988, 64-70.

591. Grodzinskaya, M.D.; Peshko, I.I.; Sal'kova, Ye. N.; Khizhnyak, A.I. (). Recording of holographic relief gratings in thin absorbing films. KVELA, no. 32, 1987, 67-75. (RZFZA, 88/1L886).
592. Gyul'nazarov, E.S.; Smirnova, T.N.; Tikhonov, Ye.A.; Shpak, M.T. (IFANUK). Diffusion self-amplification of holographic recording in photopolymers. UFIZA, no. 1, 1988, 8-10.
593. Kaarli, R.K.; Kikas, Ya.V.; Rebane, A.K.; Saari, P.M. (). Space-time holography of picosecond pulsed fields in highly selective photochromic media. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 231-244. (RZELD, 88/1D254).
594. Kazakevich, A.V.; Lamekin, V.F.; Mironos, A.V.; Smirnov, V.L. (). Study on the selective properties of holographic structures formed by waveguide light beams. AVMEB, no. 1, 1988, 88-92.
595. Kazakevich, A.V.; Mironos, A.V.; Smirnov, V.L. (KGPI). Study on the spacial angular characteristics of holograms formed by waveguide light beams. VINITI. Deposit, no. 6781-V87, 18 Sep, 1987, 11 p. (RZELD, 88/1D266).
596. Mel'nichenko, I.A. (ITEF). Fast-response laser for holography. ITEF. Preprint, no. 151, 1987, 1-16. (RZFZA, 88/2L844).
597. Meshcheryakov, N.A.; Tomilina, Ye.A. (). Modeling of light fields in the far zone by means of cylindrical lens kinoforms. VINITI. Deposit, no. 4784-V87, 29 Jun 1987. (IVUFA, no. 1, 1988, 127).
598. Mikhaylov, I.A. (). Recording and interference copying of thick transmission holograms. OPSPA, v. 64, no. 2, 1988, 378-381.
599. Mikhaylov, I.A.; Savidova, V.M. (GOI). Kinoform correctors of spherical aberration. OPMPA, no. 1, 1988, 23-26.
600. Odulov, S.G.; Soskin, M.S.; Zaporozhets, T.Ye.; Slyusarenko, S.S. (IFANUK). Method to convert coherent light beams. OTIZD, no. 27, 1987, 1325398. (RZELD, 88/1D256).
601. Sarapuu, R.; Kaarli, R. (). Nonlinearity in recording of space-time holograms in highly selective photochromic media. ETFMB, no. 3, 1987, 299-309. (RZELD, 88/1D257).

602. Sogokon',A.B. (KhGU). Amplification of latent images in bichromated colloids. ZNPFA, no. 1, 1988, 58-60.
603. Ushenko,A.G.; Yermolenko,S.B. (). Effect of polarization holographic optical signal discrimination on background noise. VINITI. Deposit, no. 7849-V87, 10 Nov 1987, 11 p. (RZFZA, 88/2L850).

#### F. LASER-INDUCED CHEMICAL REACTIONS

604. Amel'kin,S.V.; Orayevskiy,A.N. (FIAN). Multiphoton excitation of molecular vibrations in an electric field. Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom. FIAN. Trudy, no. 187. Moskva, Nauka, 1988, 178-201.
605. Bagratashvili,V.N.; Burimov,V.N.; Deyev,L.Ye.; Sviridov,A.P.; Turovets,I.M.; Shaydurov,V.S. (NITsTLAN). Infrared multiphoton dissociation of C(sub2)F(sub6) molecules sensitized by vibrationally excited CF(sub3)I molecules. KHFID, no. 2, 1988, 160-164.
606. Baryshnikov,V.I.; Martynovich,Ye.F.; Shchepina,L.I.; Kolesnikova,T.A. (). Optical ionization, luminescence and transformation of color centers in amorphous Al(sub2)O(sub3). OPSPA, v. 64, no. 2, 1988, 455-457.
607. Bunkin,F.V.; Podgayetskiy,V.M.; Semin,V.N. (IOF). Photoinduced spin decay in stratifying solutions. PZTFD, no. 2, 1988, 162-165.
608. Bykovskiy,Yu.A.; Timoshin,V.T.; Laptev,I.D.; Manykin,E.A. (MIFI). Laser mass-spectrometry detection of anomalous fractionation of heavy element isotopes. IVUFA, no. 1, 1988, 89-94.
609. Dalidchik,F.I.; Marnacheva,L.A. (IKhF). Classical approximation in the theory of UV dissociation of molecules. KVEKA, no. 2, 1988, 399-404.
610. Dolya,Z.Ye.; Nazazrova,N.B.; Paramonov,G.K.; Savva,V.A. (). Selective coherent excitation of molecules by picosecond IR laser pulses. ZPSBA, v. 48, no. 2, 1988, 212-218.
611. Galaktionov,I.I.; Dvornikov,I.V.; Kolpakov,Yu.N.; Pukhov,A.M. (GOI). Pulsed source of vacuum ultraviolet radiation for photolysis of gas media. OPMPA, no. 1, 1988, 50-53.

612. Kikas, Ya.; Khaller, K. (). Nonresonant laser action on impurity glass at 6 K. Hysteresis and threshold phenomena in photo hole burning kinetics. ETFMB, no. 3, 1987, 344-347. (RZFZA, 88/1L1189).
613. Koltunova, Ye. V. (MGU). Calculating the selectivity of laser excitation of isotopic ICl molecules. VINITI. Deposit, no. 5071-V87, 14 Jul 1987, 160-163. (RZFZA, 88/1L252).
614. Laptev, V. B.; Ryabov, Ye. A. (ISAN). Isotopically selective dissociation of BCl<sub>3</sub> in a two-frequency IR laser field. KHFID, no. 2, 1988, 165-171.
615. Levin, P. P.; Kuz'min, V. A. (IKhF). Laser photolysis study on the kinetics of geminal recombination of triplet radical pairs, including the ketyl radical and cation radical in sodium dodecyl sulfate micelles. IASKA, no. 2, 1988, 298-304.
616. Lunin, B. S.; Timofeyev, V. V.; Zhitnev, Yu. N. (MGU). UV probing and IR luminescence study on collisional deactivation of SF<sub>6</sub> molecules excited in an IR field. KHVKA, no. 1, 1988, 62-66.
617. Mueller, R.; Johansen, H. (). Multiphoton photofragmentation of CF<sub>2</sub>CFCl. Calculating the isotopic effect dependent on pressure (in German). Zeitschrift fuer Physikalische Chemie (GDR), no. 4, 1987, 673-688. (RZFZA, 88/2L265).
618. Zalesskaya, G. A.; Gololobov, A. Ye. (IFANB). Multiphoton vibrational excitation of polyatomic molecules under deactivation by extraneous gases. IFANB. Preprint, no. 489, 1987, 3-20. (RZFZA, 88/2L272).
619. Zavoruyev, S. M.; Mamedova, N. A.; Rakauskas, R. I. I. (VilGU). Model calculations of the rate constants of laser-induced molecular reactions. LFSBA, no. 1, 1988, 99-100.
620. Zhitneva, G. P.; Pshezhetskiy, S. Ya. (NIFKhI). Kinetics and mechanism of transformations in ethyl alcohol vapor under the action of IR pulsed CO<sub>2</sub> laser radiation. KHVKA, no. 1, 1988, 52-57.

#### G. MEASUREMENT OF LASER PARAMETERS

621. Alekseyev, S. A.; Bronshteyn, I. G.; Vdovin, V. A.; Mikhnovets, V. Ya.; Prokopenko, V. T. (LITMO). The FDP-2 photometric polarization sensor. PRTEA, no. 5, 1987, 243-244.

622. Belova, N.S.; Leonov, S.B.; Melik-Gaykazyan, V.I.; Melik-Gaykazyan, I.Ya. (IrPI). Method to determine the magnification of optical systems. PRTEA, no. 1, 1988, 218-219.
623. Bikmukhametov, A.; Kolinko, N.B.; Tomashevskiy, Yu.F. (). Attesting the scale of IR spectrometers by a Fizeau interferometer converting radiation from the IR to the visible in proustite. IZTEA, no. 2, 1988, 27-28.
624. Butkevich, V.I. (). Improving the efficiency of laser radiation power stabilization. RAELA, no. 1, 1988, 123-132.
625. Dashevskiy, B.Ye.; Kulaikov, Yu.V.; Shchelev, M.Ya. (GOI). Designing of time-analyzing electrooptic cameras. OPMPA, no. 1, 1988, 54-57.
626. Dubovskiy, P.Ye.; Kon'kov, A.A.; Lotkova, E.N.; Ponomarev, D.I. (FIAN). Using plane parallel plates to measure laser parameters. KRSFA, no. 1, 1988, 41-43.
627. Dumitras, D.C.; Dutu, D.C.A.; Draganescu, V.; Comaniciu, N. (). Optogalvanic laser frequency stabilization (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 161-164. (RZFZA, 88/2L1244).
628. Fofanov, Ya.A. (). Depression of natural fluctuations of power and shot noise in power-stabilized lasers. RAELA, no. 1, 1988, 177-179.
629. Gayko, O.L.; Orlov, L.N. (). Determining the Einstein coefficients for vibrational rotational transitions in polyatomic molecules [for frequency stabilization of CO<sub>2</sub> lasers]. ZPSBA, v. 48, no. 1, 1988, 148-151.
630. Gerashchenko, O.A.; Kremenchugskiy, V.L. (ITTANUkr). Thermopyroelectric detector to measure the energy and time parameters of pulsed modulated radiation. PRTEA, no. 5, 1987, 209-210.
631. Ivlev, Ye.I.; Nesterenko, V.M. (). Method to determine the power density distribution in beam cross-sections of radiation. OTIZD, no. 17, 1987, 1309118. (RZELD, 88/1D134).
632. Katrich, A.B.; Kamyshan, V.V.; Kuz'michev, V.M.; Khudoshin, A.V. (). Using bolometric transducers to measure beam parameters of radiation. RTKHA, no. 83, 1987, 41-44. (RZFZA, 88/1L1138).

633. Liberman, A.A.; Rapoport, Ye.S. (). Goniophotometric device to measure the spatial indicatrix of scattering of laser radiation. IZTEA, no. 1, 1988, 15-16.
634. Matizen, Yu.E.; Troitskiy, Yu.V. (IAESOAN). Controlling the profile of the output beam of a laser by means of an inhomogeneous interferometer. KVEKA, no. 1, 1988, 208-211.
635. Mazmanishvili, A.S. (). Readout statistics in photodetection of unpolarized Gaussian radiation. AVMEB, no. 1, 1988, 103-104.
636. Plakhotnik, T.V.; Pyndyk, A.M.; Krashennnikov, V.N.; Vinogradov, V.P. (ISAN). Multichannel photon count system with high spatial resolution. PRTEA, no. 1, 1988, 169-171.
637. Reinecke, W. (). Optical adjusted base line for automatic control of the direction of laser beams. Patent GDR, no. 246849, 17 Jun 1987. (RZELD, 88/2D283).
638. Shangin, V.A.; Shangina, I.I. (). Study on improving the accuracy of pulsed instruments to measure the coordinates of energetic centers of transverse cross-sections of laser radiation. IZTEA, no. 2, 1988, 25-27.
639. Stern, R.R.; Rozental', A.I. (). Equipment to measure astigmatism in diode lasers. Poluprovodniki i geteroperekhody. IFANEst. Tallin, 1987, 74-76. (RZELD, 88/1D138).
640. Sukhanov, I.I.; Yakushkin, S.V. (). Signal optimization in position-sensitive four-quadrant photodetectors. AVMEB, no. 1, 1988, 83-85.
641. Vasil'yev, Yu.S.; Pogosov, G.A.; Khaykin, N.Sh. (). Providing a unit of measurement of spectral density of laser radiation power. IZTEA, no. 1, 1988, 13-14.

## H. LASER MEASUREMENT APPLICATIONS

### 1. Direct Measurement by Laser

642. Akhmedzhanov, R.A.; Gitlin, G.S.; Novikov, M.A.; Polushkin, I.N.; Shcherbakov, A.I. (IPF). Device to measure the concentration of atoms and molecules in a plasma. OTIZD, no. 28, 1987, 1132668, (RZFZA, 88/1G467).

643. Aktsipetrov, O.A.; Vasil'yev, S.I.; Panov, V.I. (MGU). Nonlinear optical and tunnel scanning microscopy study on the roughness of surfaces. PZTFD, no. 4, 1988 334-338.
644. Andreev, A.T.; Angelov, A.K.; Zafirova, B.S. (). Fiberoptic sensor with a semiconductive sensitive element (in English). CRABA, no. 7, 1987, 51-54. (RZFZA, 88/1L806).
645. Artyushenko, V.G.; Butvina, L.N.; Dianov, Ye.M.; Kolesnikov, Yu.G.; Kopetskiy, Ch.V.; Kraposhin, V.S.; Lichkova, N.V.; Minenkova, N.A.; Musikhina, S.F. (). Obtaining halide glasses in the AgX-CsX system where X=Cl, Br, I [with their coefficients of bulk absorption determined by CO<sub>2</sub> laser]. Vysokochistyye veshchestva, no. 5, 1987, 205-209. (RZFZA, 88/2L710).
646. Bagayev, S.N.; Baklanov, Ye.V. (). Prospects for detecting gravitational waves [from pulsars] by frequency-stable lasers. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 531-542. (RZELD, 88/1D181).
647. Belinskiy, A.V. (). High-speed spectrochronograph with an aberration-free optical system. VINITI. Deposit, no. 8219-V87, 19 Oct 1987, 4 p. (RZFZA, 88/2L593).
648. Belousov, P.Ya.; Dubnishchev, Yu.N.; Meledin, V.G. (IAESOAN). Semiconductor laser radiator for Doppler anemometry. IAESOAN. Preprint, no. 357, 1987, 1-32. (RZFZA, 88/2L1479).
649. Bochynski, Z. (). Four hundred years of microscopy. Optical microscopy (in Polish). *Fizyka w szkole*, no. 4, 1987, 195-206. (RZFZA, 88/2A3).
650. Boiciuc, D.; Blabla, J.; Smydke, D.; Weber, T. (). Determining the metrological characteristics of an He-Ne laser at 633 nm as a secondary standard of length (in Romanian). *Metrologia aplicata*. Bucharest, no. 1, 1987, 2-4. (RZFZA, 88/1L1150).
651. Braginskiy, V.B.; Khalin, F.Ya. (MGU). Frequency-anticorrelated quantum states. ZETFA, v. 94, no. 1, 1988, 151-158.
652. Budziak, A. (). Optical localization of charged particle tracks in streamer chambers (in Polish). PSTFA, no. 4, 1987, 345-367. (RZFZA, 88/2V598).

653. Burtsev, V.A.; Zelenov, L.A.; Kamardin, I.L.; Kurunov, R.F.; Kuchinskiy, A.A.; Ratkevich, V.K.; Rodichkin, V.A.; Smirnov, V.G.; Shanskiy, V.F. (NIIEA). Development of inhomogeneities in a pulsed self-sustained discharge medium [studied by holographic interferometry]. KVEKA, no. 1, 1988, 167-172.
654. Cherepanov, A.P.; Shapiro, I.Ya.; Osadchiy, V.M.; Tsvyk, R.Sh. (). Instrument to measure the angular displacements of images from a laser source. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 122-128.
655. Demchuk, M.I.; Dmitriyev, S.M. (NIIPFP). Subnanosecond semiconductor radiator of light to study the time characteristics of photomultipliers. PRTEA, no. 1, 1988, 215-216.
656. Dreyden, G.V.; Ostrovskiy, Yu.I.; Samsonov, A.M.; Semenova, I.V.; Sokurinskaya, Ye.V. (FTI). Observation of bounded conical waves in liquids near the side surface of an elastic rod. PZTFD, no. 4, 1988, 310-313.
657. D'yakonov, G.S.; Ibragimov, R.A.; Usmanov, A.G. (KazKhTI). Holographic polarization interferometry measurement of the kinetic characteristics of mass transfer in liquid mixtures. VINITI. Deposit, no. 5770-V87, 10 Aug, 1987, 15 p. (RZELD, 88/1D272).
658. Fedortsov, A.B.; Churkin, Yu.V. (SZPI). Discriminating interference determination of the lifetimes of nonequilibrium electrons and holes in semiconductors. PZTFD, no. 4, 1988, 321-324.
659. Filippov, N.V.; Boglachev, A.S.; Ivanov, V.D.; Orlov, M.M. (IAE). Laser interferometry of a "plasma focus" in the region of formation of a current plasma shell. IAE. Preprint, no. 4459/7, 1987, 7 p. (RZFZA, 88/2G220).
660. Genkin, V.N.; Demochko, Yu.A.; Miller, A.M.; Soustov, L.V. (IPF). Method to measure the absorption coefficient of light in transparent solids. OTIZD, no. 31, 1987, 1136605. (RZFZA, 88/1L586).
661. Gil', V.V.; Dzhoshi, R.; Kolpashchikov, V.L.; Kuleshov, S.A.; Martynenko, O.G.; Shnip, A.I. (ITMO). Intrachannel dispersion of intense shifted flows of low-viscosity liquids [measured by laser Doppler velocimeter]. INFZA, v. 54, no. 1, 1988, 20-25.
662. Gol'dinov, L.L. (). Device for plasma diagnostics by light scattering. OTIZD, no. 23, 1987, 1318860. (RZFZA, 88/2G422).



663. Gol'dshteyn, S.Sh.; Kolesnikov, A.G.; Khaydarov, A.V. (GOI). Remote scanning laser measurement of the thickness of transparent pipes. OPMPA, no. 2, 1988, 48-50.
664. Golubovskiy, Yu.M.; Kulikova, N.I.; Foygel', M.M.; Etsin, I.Sh. (GOI). Photoelectric instrument to measure nonrectilinearity. OPMPA, no. 1, 1988, 30-32.
665. Groznov, M.A.; Myl'nikov, V.S.; Orlov, S.Yu.; Pokrovskiy, V.P.; Sinikas, A.G.; Soms, L.N. (). Outlining of optical images by photoconductor/liquid-crystal light modulators with orientationally textured and cholesteric nematic transitions. ZTEFA, no. 1, 1988, 186-189.
666. Helsztynski, J. (). Current status and prospects for development of optoelectronics (in Polish). WDTEA, no. 4, 1987, 4-10. (RZFZA, 88/1L843).
667. Il'in, V.N. (). Interferometric transducer of angular and linear displacements. IZTEA, no. 2, 1988, 17-18.
668. Ivanov, B.I.; Prishchepov, V.P.; Kodyakov, V.M. (). Developing a method to measure the strength of intense electric fields in collective accelerators. CMKUCHVE, 13th, Novosibirsk, 7-11 Aug 1986. Trudy. Vol. 2. Novosibirsk, 1987, 229-231. (RZFZA, 88/1V395).
669. Klimenko, I.S.; Krivko, T.V.; Malov, A.N.; Ryabukho, V.P. (MFTI). Speckle interferometry of longitudinal displacements with volume recording of the speckle structures. ZTEFA, no. 1, 1988, 182-186.
670. Klimkin, V.F.; Pikalov, V.V. (). Reconstruction of the refractive index of a phase microobject by optical interferometry. OPSPA, v. 64, no. 1, 1988, 159-164.
671. Konopel'ko, G.K. (LETI). Accessing information on distance during interference of two frequency-modulated light waves. VINITI. Deposit, no. 6814-V87, 23 Sep 1987, 9 p. (RZFZA, 88/1L552).
672. Kovalev, A.A.; Tyushkevich, B.N.; Brovkovich, V.G.; Varenov, Yu.I.; Dashkevich, V.I.; Shchaya-Zubrov, P.G. (IEANBel). Double-exposure pulsed holographic interferometer using a ruby laser. ZPSBA, v. 48, no. 2, 1988, 330-332.
673. Krasivskiy, I.N.; Zak, Ye.A. (GOI). Study on hybrid fiberoptic transducers. OPMPA, no. 2, 1988, 6-9.

674. Krichevstov, B.B.; Pavlov, V.V.; Pisarev, R.V. (FTI). Non-reciprocal optical phenomena in antiferromagnetic  $\text{Cr}(\text{sub}2)\text{O}(\text{sub}3)$  in electric and magnetic fields. ZETFA, v. 94, no. 2, 1988, 284-295.
675. Krivoshlykov, A.Yu.; Tymchik, G.S. (KPIA). Coherent optical analyzer of digital-program-controlled lathe cutting tools. IVUBA, no. 1, 1988, 78-81.
676. Lyapakhin, A.B.; P'yankov, B.L.; Gorbachev, D.B. (GOI). Instrument to monitor the thickness and speed of deposition of films under vacuum vaporization. OPMPA, no. 1, 1988, 29-30.
677. Markhvida, I.V.; Tanin, L.V.; Utkin, I.A. (IFANB). Localization of interference patterns in speckle photography of arbitrarily displaced objects. ZTEFA, no. 1, 1988, 121-125.
678. Nadolugov, V.I.; Dudarevich, A.L.; Barikhin, B.A. (). Holographic diagnostics of an erosion flare. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 143-145. (RZFZA, 88/2L1393).
679. Nikitin, A.K.; Tishchenko, A.A. (). Accuracy and sensitivity of ellipsometry with excitation of surface electromagnetic waves to study thin films. PFKMD, no. 9, 1987, 84-88. (RZFZA, 88/1L38).
680. Odintsev, I.N.; Shepinov, V.P.; Yakovlev, V.V. (MIFI). Holographic compensational measurement of elastic constants of materials. ZTEFA, no. 1, 1988, 108-113.
681. Ovod, V.I. (). Calculating the parameters of scattering pulses recorded in laser analyzers of fiber diameters. OPSPA, v. 64, no. 2, 1988, 402-406.
682. Poddubnyy, V.V.; Pilipenko, V.A.; Vasil'tseva, N.I. (). Maximum likely resolution of coherent signal sources by a multichannel interferometer. VINITI. Deposit, no. 6524-V87, 7 Sep 1987, 15 p. (RZELD, 88/1D14).
683. Povrozin, A.I. (VNIIVODGEO). Device to measure the speed of flows. OTIZD, no. 42, 1986, 1270707. (RZELD, 88/1D234).
684. Proskuryakova, S.F.; Cheburkov, D.I.; Yagola, G.K.; Komov, Ye.A. (). Device to verify teslameters of pulsed magnetic fields. IZTEA, no. 1, 1988, 39-40.
685. Pushkarev, G.P.; Lukin, I.V.; Risto, V.A. (). Phase instrument to measure displacements. IZTEA, no. 2, 1988, 19-20.

686. Ristic,S. (). Analyzing the accuracy of measuring the third component of flow velocity by means of a laser Doppler anemometer (in Serbo-Croatian). Naucno-tehnicki preglad Vojnotehnicki institut (Belgrade), no. 4, 1987, 15-23. (RZELD, 88/1D174).
687. Romanyuk,N.A.; Mytsyk,B.G. (). Immersion interference method to study the piezooptic and elastic properties of crystals. PRTEA, no. 1, 1988, 171-173.
688. Rousar,I.; Okic,M. (). Method and device to measure the reflectivity of shiny metal surfaces. Author's certificate Czechoslovakia, no. 233892, 1 Apr 1987. (RZELD, 88/1D133).
689. Shcherbak,V.I. (). Signal function of optimal measuring instruments in the optical range. IZTEA, no. 2, 1988, 23-25.
690. Sinitsyn,G.V.; Apanasevich,S.P.; Karpushko,F.V.; Lyakhnovich,A.V. (IFANB). Optically controlled switching waves in bistable thin-layer interferometers. IANFA, no. 2, 1988, 369-373.
691. Sirota,N.N.; Lomako,I.D. (). Correlation between anisotropy of gyrotropic and magnetic properties of samarium and terbium orthoferrites [studied by laser] (in English). CRTED, no. 8, 1987, 1085-1088. (RZFZA, 88/2N1525).
692. Stanclik,R.; Orzechowski,J.; Staszewski,M. (). Laser correctors (in Polish). Przegląd mechaniczny, no. 9, 1987, 5-10,111. (RZELD, 88/2D331).
693. Suynov,S.Kh.; Spassova,E.M.; Dunev,G.V. (). Use of total internal reflection microscopy for estimation of surfaces with complex topology (in English). CPABA, no. 6, 1987, 17-20. (RZFZA, 88/1L873).
694. Ursu,I.; Apostol,D.; Stoica,M.; Apostol,I.; Craciun,D.; Hening,A.; Mihailescu,I.N.; Stancalie,V. (). Laser interferometry at 10.6 um for plasma diagnostics (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 443-462. (RZFZA, 88/2G114).
695. Vlasova,G.B.; Mikhaylov,A.L.; Poklontsev,B.A.; Fedorov,A.V. (). Doppler velocimeter based on an iodine laser to measure the velocity of targets accelerated by an explosion. FGVZA, no. 1, 1988, 127-130.

696. Zak, Ye.A. (). Analysis of principles to construct fiberoptic transducers with external modulation. PRSUB, no. 10, 1987, 11-13. (Referativnyy zhurnal. Svyaz', 88/2A77).
697. Zakharov, M.I. (). Design and optimization of multi-beam reflecting interferometers. OPSPA, v. 64, no. 1, 1988, 186-192.
698. Zakharov, S.D.; Korotkov, N.P. (FIAN). Method to determine the microscopic characteristics of scatterers in dense randomly inhomogeneous media. KRSFA, no. 1, 1988, 35-37.

## 2. Laser-Excited Optical Effects

699. Afonin, O.A.; Nazvanov, V.F.; Novikov, A.V. (SGU). Optically controlled transparencies using structures of photoconductors and polymer encapsulated nematic liquid crystals. PZTFD, no. 2, 1988, 129-133.
700. Ageyev, V.P.; Vasil'yev, A.G.; Konov, V.I.; Kuzmichev, A.V.; Mikhaylesku, I.N.; Orlikovskiy, A.A.; Popesku, M. (). Change in the optical properties of thin films of amorphous silicon under stimulated crystallization by UV laser radiation. PZTFD, no. 4, 1988, 313-316.
701. Akhmediyev, N.N.; Mel'nikov, I.V.; Nazarkin, A.V.; Rogov, V.S. (). Monochromatization of atomic beams by velocity in a frequency-scanning electromagnetic wave field. OPSPA, v. 64, no. 1, 1988, 22-26.
702. Andreyev, V.M.; Kagan, M.B.; Kalinovskiy, V.S.; Rassadin, L.A.; Iarionov, V.R.; Nuller, T.A.; Rummyantsev, V.D.; Rasulov, K.Ya. (). Injection annealing of defects in solar element AlGaAs structures under radiative irradiation. PZTFD, no. 2, 1988, 121-125.
703. Andriyesh, A.M.; Akimova, Ye.A.; Beril, S.I.; Verlan, V.I. (IPFANM). Injection and transfer of holes in Se/As(sub2)Se(sub3) heterostructures. FTTPA, no. 2, 1988, 289-292.
704. Apollonov, V.V.; Artem'yev, A.I.; Kalachev, Yu.L.; Prokhorov, A.M.; Fedorov, M.V. (IOF). Acceleration of electrons in strong laser and permanent transverse magnetic fields. ZFPRA, v. 47, no. 2, 1988, 77-79.

705. Atutov, S.N.; Shalagin, A.M. (). Spatial localization and accumulation of neutral atoms by means of the photoinduced drift effect. OPSPA, v. 64, no. 1, 1988, 223-225.
706. Atutov, S.N.; Shalagin, A.M. (IAESOAN). Spatial localization and accumulation of neutral atoms by means of self-induced drift. IAESOAN. Preprint, no. 363, 1987, 1-6. (RZFZA, 88/1L1282).
707. Averoukh, I.Sh.; Kovarskiy, V.A.; Perel'man, N.F.; Yastrebov, B.S. (). Hysteresis effects and photoinduced conformation rearrangement of molecules excited by a strong light field. KVELA, no. 33, 1987, 46-50. (RZFZA, 88/1L990).
708. Balykin, V.I.; Letokhov, V.S. (ISAN). Deep focusing of an atomic beam in the angstrom region by means of laser radiation. ZETFA, v. 94, no. 1, 1988, 140-150.
709. Barabanov, A.L. (IAE). Laser orientation of nuclei of free atoms. IAE. Preprint, no. 4486/2, 1987, 24 p. (RZFZA, 88/2V179).
710. Chetkin, M.V.; Zvezdin, A.K.; Gadetskiy, S.N.; Gomonov, S.V.; Smirnov, V.B.; Kurbatova, Yu.N. (MGU). Dissipative structures under supersonic motion of domain walls in orthoferrites. ZETFA, v. 94, no. 1, 1988, 269-279.
711. Dykman, I.M.; Tomchuk, P.M. (IFANUk). Superlattice in a multi-valley semiconductor, formed by coherent light waves. FTTPA, no. 9, 1987, 1612-1618.
712. Kazantsev, A.P.; Krasnov, I.V. (ITFL). Rectification effect of the graded force of resonant light pressure. ZFPRA, v. 46, no. 7, 1987, 264-267.
713. Kiselev, Yu.F.; Prudkoglyad, A.F.; Shumovskiy, A.S.; Yukalov, V.I. (OIYaI). Observation of superradiance by a system of nuclear magnetic moments. ZETFA, v. 94, no. 2, 1988, 344-349.
714. Kolezhuk, K.V.; Linnik, L.F.; Manita, O.F. (IPANUk). Photoconductivity of  $Cd(x)Hg(1-x)Te$  films under pulsed CO<sub>2</sub> laser excitation. OPTED, no. 12, 1987, 73-76.
715. Kovalenkov, O.V.; Mashevskiy, A.G.; Sinitsyn, M.A.; Fedorova, O.M.; Yavich, B.S. (FTI). Study on GaAs-AlGaAs quantum well structures obtained by a metalloorganic compound hydride method. PZTFD, no. 3, 1988, 222-226.

716. Krasauskas, V.; Pyalakauskas, A. (VilGU). Variation in absorption in thin layers of GaAs under biharmonic excitation conditions. LFSBA, no. 1, 1988, 109-111.
717. Marmur, I. Ya.; Novikov, Yu. B.; Oksman, Ya. A. (). Photocapacity effect on closed p-n junctions. FTTPA, no. 1, 1988, 87-92.
718. Oganessian, S. G.; Abadzhyan, S. V. (NIIFKS). Modulation and polarization by laser radiation, of particles describing a wave packet. ArmNIINTI. Deposit, no. 45-Ar87, 28 Sep 1987, 9 p. (RZFZA, 88/2Zh671).
719. Oganessian, S. G.; Sargsyan, N. A. (NIIFKS). Modulation of polarized electron beams at optical frequencies. ArmNIINTI. Deposit, no. 43-Ar87, 28 Sep 1987, 10 p. (RZFZA, 88/1L1009).
720. Oganessian, S. G.; Sargsyan, N. A. (NIIFKS). Quantum theory of an optical klystron. ArmNIINTI. Deposit, no. 45-Ar87, 28 Sep 1987, 5 p. (RZFZA, 88/2Zh672).
721. Rashev, S.; Kancheva, L. (). Vibrational relaxation in isolated molecules (in English). Bolgarskiy fizicheskiy zhurnal, no. 2, 1987, 186-196. (RZFZA, 88/1L991).
722. Salayev, E. Yu.; Askerov, I. M.; Kadzhar, Ch. O.; Mamedbeyli, I. A. (). Photostimulated absorption in semi-insulating GaAs<Cr>. FTTPA, no. 9, 1987, 1664-1668.
723. Starik, A. M. (). Cooling of molecular gas under amplification of light. KVEKA, no. 2, 1988, 295-302.
724. Vaytekunas, F.; Vishnyauskas, Yu.; Shimenas, G.; Vaglis, A. (VilGU). Effect of infrared radiation on pulse parameters in TRAPATT oscillator. LFSBA, no. 1, 1988, 121-122.
725. Vaytkus, Yu. Yu. (). Photoinduced effects as a method to study defects and eletrophysical parameters of semiconductors. Kvantovyye protsessy v intensivnykh polyakh. Kishinev, 1987, 18-27. (RZFZA, 88/2N563).
726. Vaytkus, Yu. Yu.; Grigor'yev, Yu. A.; Kazhukauskas, V. V.; Ovenskiy, V. V.; Storasta, Yu. I. (). Transient photocurrent and kinetics of the Hall effect under pulsed Nd laser excitation of semi-insulated gallium arsenide. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 160-164. (RZFZA, 88/2L1414).

727. Viznyuk, S.A.; Pashinin, P.P.; Prokhorov, A.M.; Rastopov, S.F.; Sukhodol'skiy, A.T. (IOF). Effect of temperature ignition of luminescence in aqueous solutions of rhodamine 6G. ZFPRA, v. 47, no. 4, 1988, 190-193.
728. Volkov, V.P.; Sechko, A.G.; Skiba, P.A. (). Laser-stimulated desorption of charged particles in an external electric field. DBLRA, no. 10, 1987, 891-894. (RZFZA, 88/2L421).
729. Zhindulis, A. (VilGU). Photosensitive semiconductor films in optically controlled transparencies. LFSBA, no. 1, 1988, 83-84.
730. Zhuravlev, A.B.; Marushchak, V.A.; Portnoy, Ye.L.; Stel'makh, N.M.; Titkov, A.N. (FTI). Lifetime of nonequilibrium charge carriers in p-GaAs irradiated by oxygen ions. FTPPA, no. 2, 1988, 352-354.

### 3. Laser Spectroscopy

731. Abdullayev, A.Yu.; Govorkov, S.V.; Zadkov, V.N.; Petrov, G.I.; Shumay, I.L. (MGU). Microcomputer-controlled picosecond laser spectrometer to study semiconductor surfaces. VMUFA, no. 1, 1988, 48-53.
732. Aktsipetrov, O.A.; Mishina, Ye.D. (MGU). Giant Raman scattering and laser-induced desorption. PZTFD, no. 1, 1988, 14-17.
733. Aladov, A.V.; Ryl'kov, V.V.; Reznichenko, A.V.; Kokin, V.N.; Gorelik, A.V.; Luk'yanets, Ye.A. (). Spectral characteristics of excited states of amino derivatives of phenalene in ethanol. OPSPA, v. 64, no. 1, 1988, 51-56.
734. Aleksa, V.; Shablinskas, V.; Urba, V. (VilGU). Obtaining resonant Raman spectra of halide systems. LFSBA, no. 1, 1988, 96-97.
735. Aleksandrov, I.V.; Bykov, A.B.; Goncharov, A.F.; Denisov, V.N.; Mavrin, B.N.; Mel'nikov, O.K.; Podobedov, V.B. (ISAN; IKAN). Raman scattering in single crystals of  $\text{YBa}(\text{sub}2)\text{Cu}(\text{sub}3)\text{O}(\text{sub}x)$  high-temperature semiconductors. ZFPRA, v. 47, no. 4, 1988, 184-187.
736. Altayskiy, Yu.M.; Avramenko, S.F.; Guseva, O.A.; Kiselev, V.S. (KPIA). Edge photoluminescence in cubic silicon carbide. FTPPA, no. 11, 1987, 2072-2075.

737. Apanasevich, P.A.; Gadonas, R.; Kvach, V.V.; Krasauskas, V.; Orlovich, V.A.; Chirvonny, V.S. (IFANB). Laser spectroscopy of photoinduced complex formation of tetrahydrofuran with Cu octaethylporphyrin in the excited electron state. KHFID, no. 1, 1988, 21-32.
738. Aseyev, G.I.; Gorin, G.B.; Golubentseva, L.I.; Gyunsburg, K.Ye.; Zvezdova, N.P.; Kats, M.L.; Rodionova, L.M.; Sorokoumova, I.P. (). Luminescence of KCl-In crystals colored by ionizing radiation and bleached. OPSPA, v. 64, no. 2, 1988, 424-426.
739. Aussenegg, F.R.; Draxler, S.; Leitner, A.; Lippitsch, M.E.; Riegler, M. (). Picosecond spectroscopic study on surfaces (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 385-390. (RZFZA, 88/2L1471).
740. Aussenegg, F.R.; Lippitsch, M.E.; Riegler, M. (). Picosecond spectroscopy of photoreceptor molecules (in English). Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 287-307. (RZELD, 88/1D190).
741. Azhnyuk, Yu.N.; Artamonov, V.V.; Valakh, M.Ya.; Lisitsa, M.P.; Nizkova, A.I.; Romanenko, V.F.; Sergeyev, O.T. (IPANUK). Raman identification of joints of silicon carbide polytypes. OPTED, no. 12, 1987, 12-16.
742. Baklanov, Ye.V.; Titov, Ye.A. (). Absorption line shape for particles in a rectangular potential well. OPSPA, v. 64, no. 1, 1988, 37-41.
743. Balagurov, L.A.; Omel'yanovskiy, E.M.; Pinsker, T.N.; Primbetov, K.K.; Utkin-Edin, D.P. (Giredmet). Photoelectric relaxation spectrum analysis of local states in amorphous Si:H. FTTPA, no. 1, 1988, 155-157.
744. Baltrameyunas, R. (VilGU). Spectroscopy of semiconductors. Cited in LFSBA, no. 1, 1988, 87.
745. Balyavichyus, V.I.; Shablinskas, V.I.; Kimtis, L.L. (). Digital deconvolution of IR and Raman spectral contours. ZPSBA, v. 48, no. 2, 1988, 268-274.
746. Bazhenov, A.V.; Gasparov, L.V.; Kulakovskiy, V.D.; Misochko, O.V.; Osip'yan, Yu.A.; Timofeyev, V.B. (IFTT). Isotopic effect in the Raman spectra of orthorhombic and tetragonal single crystals of  $\text{YBa}(\text{sub}2)\text{Cu}(\text{sub}3)\text{O}(\text{sub}7 \text{ delta})$ . ZFPRA, v. 47, no. 3, 1988, 162-165.



747. Belousov, M.V.; Leonov, Ye.I.; Petrikov, V.D.; Shcherbakov, A.G. (FTI). Resonance interaction and density of states of valence vibrations of  $\text{SiO}(\text{sub}4)$  tetrahedrons in  $\text{Bi}(\text{sub}12)\text{SiO}(\text{sub}20)$  crystals. FTVTA, no. 2, 1988, 396-400.
748. Belyy, M.U.; Glinka, Yu.D.; Kushnirenko, I.Ya.; Kumeskiy, V.R.; Nedel'ko, S.G. (KGU). Luminescence properties of impurity molecular  $\text{CrO}(\text{sub}4)(\text{sup}2-)$  anions in borate glasses. UFIZA, no. 2, 1988, 215-218.
749. Berndt, K.; Klose, E. (). High-sensitivity fluorescence detection with picosecond time resolution (in English). RRPQA, no. 1-2, 1987, 147-150. (RZFZA, 88/2L1458).
750. Bezlepkin, A.I.; Velikotskiy, V.L.; Kromskiy, D.G.; Mnuskin, V.Ye.; Trinchuk, V.F.; Khomyak, A.S. (). Study on the optogalvanic effect in neon in the blue region of the spectrum. ZPSBA, v. 48, no. 2, 1988, 253-257.
751. Bobovich, Ya.S.; Grebenshchikova, N.I.; Tsenter, M.Ya. (). Raman scattering, formation and structure of submicroscopic semiconductor particles in silicate matrices. ZPSBA, v. 47, no. 4, 1987, 629-635.
752. Bolot'ko, L.M.; Dorokhin, A.V.; Sukhodola, A.A. (). Fluorescence of complex molecules in solutions during excitation of high electron triplet states. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 107-112. (RZFZA, 88/2L486).
753. Boyko, S.A.; Brodin, A.M.; Shpak, A.M.; Voska, R.; Feldvari, I. (). Nonlinear polarization spectroscopy of tunnel centers in cubic crystals. KVELA, no. 32, 1987, 39-47. (RZFZA, 88/1L1292).
754. Burakov, V.S.; Gvozdev, A.A.; Kovalev, A.Ya.; Misakov, P.Ya.; Naumenkov, P.A.; Peliyeva, L.A. (IFANB). Analysis of the gas phase of matter in an electrothermal atomizer and determination of small concentrations of elements by intracavity laser spectroscopy. IFANB. Preprint, no. 456, 1987, 1-24. (RZFZA, 88/2L1437).
755. Burova, T.G.; Priyutov, M.V. (). Quantum mechanical calculation of the resonance Raman spectrum of paraxylene. ZPSBA, v. 48, no. 2, 1988, 324-326.
756. Butkevich, V.I.; Privalov, V.Ye. (). Using lasers in precision analytical measurements (review). ZPSBA, v. 48, no. 1, 1988, 7-26.

757. Bykovskaya, L.A.; Kulikov, S.G.; Yeremenko, A.M.; Yankovich, V.N. (). Low-temperature fluorescence spectra of anthracene adsorbed on the surface of silica under selective laser excitation. OPSPA, v. 64, no. 2, 1988, 320-324.
758. Chayka, M.P. (). Doppler contour of the fluorescence line in the presence of latent alignment. OPSPA, v. 64, no. 1, 1988, 241-244.
759. Chichinin, A.I.; Krasnoperov, L.N. (IKhKG). Laser magnetic resonance recording of the SiF(sub3) radical in the gas phase. KHFID, no. 2, 1988, 223-227.
760. Danelyus, R.; Rotomskis, R. (VilGU). Ultrafast phenomena of relaxation of energy in ordered and disordered structures. Cited in LFSBA, no. 1, 1988, 79.
761. Darmanyan, A.P. (IKhF). Generation of (sup1)O(sub2) and quenching mechanism in triplet quinone triphenylamine exciplexes by molecular oxygen and electron acceptors. KHFID, no. 1, 1988, 13-20.
762. Denisov, L.K.; Izmaylov, B.A.; Ikhenov, D.A.; Kozlov, N.A.; Konstantinov, B.A.; Nikiforov, V.G.; Sivovolov, V.A.; Khmelevskiy, A.M. (TsNIIE). Laser fluorometer. PRTEA, no. 4, 1987, 247.
763. Dietze, H.J. (). Laser mass-spectroscopy (in German). Wissenschaftliche Beitrage der Martin Luther Universitaet. Halle-Wittenberg. Reihe O, no. 22, 1987, 8-18. (RZFZA, 88/2L1431).
764. Dmitriyev, V.P.; Loshkarev, V.V.; Rabkin, L.M.; Shuvalov, L.A.; Shchagina, N.M. (RGU; IKAN). Vibrational modes and super ion conductivity in cesium deuteriosulfate. KRISA, no. 1, 1988, 151-157.
765. Feller, K.H.; Gase, R.; Gadonas, R.; Krasauskas, V. (). Environmental effect on the deactivation of the S(sub1) state of polymethine dyes (in English). RRPQA, no. 1-2, 1987, 163-167. (RZFZA, 88/2L1462).
766. Gadonas, R.; Kapochyute, R.; Krasauskas, V.; Piskarskas, A. (). Picosecond deactivation of electron excitation energy in monomers and aggregates of sulfur acetate derivative of hematoporphyrine. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 113-117. (RZFZA, 88/2L1463).

767. Gangrskiy, Yu. P.; Gradechny, Ch.; Zemlyanoy, S. G.; Iliyev, S. N.; Marinova, K. P.; Markov, B. N.; Oganesyan, Yu. Ts.; Khoang Tkhi Kim Khue; Chan Kong Tam. (). Measuring the charge radii of Ce, Nd, Sm, and Gd nuclei by resonantly scattered laser radiation. CMSH SFTI, Dubna, 23-30 Sep 1986. Dubna, 1987, 313-321. (RZFZA, 88/2V140).
768. Gawlik, W. (). Optical pumping and coherence effects in Doppler-free laser spectroscopy (in English). *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVSh PLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 563-579. (RZELD, 88/1D194).
769. Gaysenok, V. A.; Damm, T.; Slobodyanyuk, A. I.; Rench, S. (). Two-photon absorption of rhodamine 6G in the double resonance region. *OPSPA*, v. 64, no. 1, 1988, 57-62.
770. Gil', S. V.; Yegorova, L. V.; Leshcheva, I. Ye.; Stroganova, A. Yu. (GOI). Study on the interference field of a static Fourier spectrometer. *OPMPA*, no. 1, 1988, 10-14.
771. Glushkov, S. M.; Panchishin, I. M.; Fadeyev, V. V. (MGU). Raman spectra under water-to-ice phase transition and laser diagnostics of heterophase aqueous systems. *VINITI. Deposit*, no. 6292-V87, 27 Aug 1987, 36 p. (RZFZA, 88/1L1306).
772. Golubeva, N. G.; Sviderskiy, I. N. (KGU). Effect of excitation on the resonance Raman spectrum of riboflavin. *KGU. Vestnik. Fizika*, no. 28, 1987, 85-88. (RZFZA, 88/2L224).
773. Gorbunov, M. V.; Kaminskiy, A. S.; Safonov, A. N. (IRE). Valley-orbit splitting of the ground state of excitons bound to acceptors in silicon. *ZETF A*, v. 94, no. 2, 1988, 247-258.
774. Govorun, D. N.; Korotkov, P. A.; Fomin, V. M. (KGU). Device to control the scan of the DFS-24 spectrometer. *UkrNIINTI. Deposit*, no. 2787-Uk87, 1 Oct 1987, 7 p. (RZFZA, 88/2L826).
775. Grigor'yev, G. Yu.; Klimov, V. D.; Nabyev, Sh. Sh.; Osipov, A. P. (IAE). Coherent anti-Stokes Raman spectroscopy. Physical fundamentals and analytical applications. Part 1. Physical fundamentals and experimental technology. *IAE. Preprint*, no. 4520/12, 1987, 1-24. (RZFZA, 88/2L1453).

776. Grigor'yev, G. Yu.; Klimov, V. D.; Nabiyev, Sh. Sh.; Osipov, A. P. (IAE). Coherent anti-Stokes Raman spectroscopy. Physical fundamentals and analytical applications. Part 2. Analytical applications of coherent anti-Stokes Raman spectroscopy. IAE. Preprint, no. 4521/12, 1987, 1-36. (RZFZA, 88/2L1456).
777. Gubanov, V. A.; Kulikova, O. V.; Kulyuk, L. L.; Radautsan, S. I.; Ratseyev, S. A.; Salivon, G. I.; Teelevan, V. Ye.; Tsytsanu, V. I. (IPFANM). Raman scattering in CdIn<sub>2</sub>S<sub>4</sub> single crystals and phonon modes in various A<sup>II</sup>B<sub>2</sub>C<sub>4</sub>VI semiconductor crystals. FTVTA, no. 2, 1988, 457-461.
778. Ivanov, I. G.; Fadeyev, V. V. (MGU). Laser fluorescence diagnostics of phytoplankton under saturation. KVEKA, no. 1, 1988, 191-197.
779. Ivashkevich, L. S.; Lyutsko, V. A.; Nikanovich, M. V. (). Calculating the vibrational spectrum of triphosphate anion. ZPSBA, v. 48, no. 2, 1988, 262-268.
780. Kaganovich, E. B.; Sukach, G. A.; Svechnikov, S. V. (). Radiative recombination in CdS films under laser excitation. KVELA, no. 32, 1987, 78-83. (RZFZA, 88/1L454).
781. Kamalov, V. F.; Koroteyev, N. I.; Toletuyev, B. N.; Shkurinov, A. P. (MGU). Vibrational spectra of "hot" molecules in the excited electron state. Coherent Raman measurement of picosecond cooling kinetics. ZFPRA, v. 47, no. 2, 1988, 82-85.
782. Kaminskiy, A. A.; Sarkisov, S. E.; Pukhov, K. K.; Dosmagambetov, Ye. S. (). Effects of electron-phonon interaction in the optical spectra of praseodymium. Akademiya nauk Kazakhskoy SSR. Vestnik, no. 1, 1988, 56-59.
783. Kazanskiy, A. K.; Tel'nov, D. A. (LGU). Interference effects in the autoionization spectrum of atoms induced by a laser pulse. ZETFA, v. 94, no. 2, 1988, 73-79.
784. Kazlauskas, A.; Rachyukaytis, G. (VilGU). Nonlinear spectroscopy of deep centers in ZnSe:Te crystals. LFSBA, no. 1, 1988, 104-105.
785. Klassen, I. F.; Pogorelov, V. Ye.; Salivon, G. I. (). Wideband background noise in nonresonance Raman spectra. UFIZA, no. 9, 1987, 1342-1345. (RZFZA, 88/1L217).

786. Klochkov, V.P.; Korsakova, Ye.G. (). Effect of the medium on the fluorescence spectra from high electron states. OPSPA, v. 64, no. 2, 1988, 464-466.
787. Kuokshtis, E.; Latinis, V.; Styapankyavichyus, V.; Yurshenas, S. (VilGU). Picosecond luminescence kinetics of a high-density electron hole plasma in CdSe crystals. LFSBA, no. 1, 1988, 102-103.
788. Kuokshtis, E.P.; Gerazimas, Ye.G. (VilGU). Polarization of luminescence in strongly excited hexagonal CdSe crystals. LFSBA, no. 1, 1988, 108-109.
789. Kuz'min, V.S.; Sayko, A.P. (). Effect of the shape of the excitation pulses on echo signals in condensed media. ZPSBA, v. 48, no. 1, 1988, 120-124.
790. Kuz'min, V.S.; Sayko, A.P. (). Calculating the irreversible relaxation in echo spectroscopy. ZPSBA, v. 48, no. 2, 1988, 296-302.
791. Laczko, G.; Maroti, P.; Szalay, L. (). Use of lasers in photophysical research of photosynthesis (in English). *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas, 1986, 349-360.* (RZELD, 88/1D182).
792. Latinis, V.; Styapankyavichyus, V.; Yurshenas, S. (VilGU). Spectrometer to study fast-flow radiative processes. LFSBA, no. 1, 1988, 94-95.
793. Letokhov, V.S. (). Laser detection of rare isotopes. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas, 1986, 33-52.* (RZELD, 88/1D192).
794. Levshin, L.V.; Struganova, I.A.; Toletayev, B.N. (). Effect of fluctuational rearrangements of solvates, on the fluorescence of dye solutions. Part 1. Dynamics of the fluorescence spectra. OPSPA, v. 64, no. 2, 1988, 314-319.
795. Lisitsa, M.P.; Motsnyy, F.V.; Yaremko, A.M. (). Study on polaritons in 2H-PbI(sub2) layered single crystals under quasi-resonance laser excitation. UFIZA, no. 8, 1987, 1185-1190. (RZELD, 88/1D199).
796. Lisitsyna, Ye.A.; Khalilev, V.D.; Koryavin, A.A.; Goncharova, L.N. (LTI). Effect of nitride additives on the thermophysical properties of phosphate glasses. FKSTD, no. 1, 1988, 132-135.

797. Lisovenko, V.A.; Sandul, C.A.; Shpak, M.T. (). Nature of the background in the Raman spectra of anthracene single crystals. OPSPA, v. 64, no. 2, 1988, 360-365.
798. Lisovoy, B.V.; Malushin, N.V.; Semenyuk, L.N.; Skobeyeva, V.M.; Serdyuk, V.V. (). Photoluminescence of epitaxial films of lithium-doped zinc telluride. ZPSBA, v. 48, no. 1, 1988, 61-65.
799. Makogonenko, A.G.; Klochkov, V.P. (). Incoherent superluminescence. OPSPA, v. 64, no. 2, 1988, 244-246.
800. Markov, B.N. (). Using lasers to study short-lived isomers. *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM*, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 53-58. (RZELD, 88/1D203).
801. Mekhtiyev, A.Sh.; Alekperov, O.Z. (). Effect of the intensity of photoexcitation on line broadening of impurity absorption. NPOKIANAz. *Sobshcheniya. Baku*, 1987, 37-42. (RZFZA, 88/1N459).
802. Mikhaylov, Yu.T.; Kundeleva, N.Ye.; Cheshev, Ye.A. (). Optimizing the conditions for nanosecond pulsed photoexcitation in kinetic spectrophotometry. VINITI. *Deposit*, no. 8218-V87, 19 Nov 1987, 16 p. (RZFZA, 88/2L658).
803. Mitchenkov, V.M.; Ippolitov, I.I.; Klimkin, V.M. (IOA). Scattering and fluorescence spectra from excitation of H<sub>2</sub>O vapor by 248.5 nm KrF\* laser radiation. *KHVKA*, no. 1, 1988, 58-61.
804. Nagli, L.Ye. (). Relaxed excited states of Tl<sup>+</sup> ions in NaCl-Tl. OPSPA, v. 64, no. 2, 1988, 453-455.
805. Nebola, I.I.; Kharkhalis, N.R.; Suslikov, L.M.; Bercha, D.M.; Slivka, V.Yu. (). Vibrational spectra of crystals with chalcopyrite and defective chalcopyrite structures. *Theoretical s<sup>t</sup>u<sup>r</sup> KVELA*, no. 33, 1987, 63-75. (RZFZA, 88/1L370).
806. Neugart, R. (). Collinear-laser/fast-beam spectroscopy of unstable nuclides (in English). *Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM*, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 72-97. (RZELD, 88/1D193).
807. Neugart, R. (). Laser spectroscopy in regions of spherical and deformed nuclei (in English). CMSHSFTI, Dubna, 23-30 Sep 1986. *Dubna*, 1987, 292-307. (RZFZA, 88/2V141).

808. Pan'ko, V.V.; Studenyak, I.P.; D'ordyay, V.S.; Kovach, D.Sh.; Borets, A.N.; Voroshilov, Yu.V. (UzhGU). Effect of the production conditions on the properties of  $\text{Cu}(\text{sub}6)\text{PS}(\text{sub}5)\text{Hal}$  crystals. IVNMA, no. 1, 1988, 120-123.
809. Pasternak, A.F.; Demidov, A.A.; Drits, A.V.; Fadeyev, V.V. (IOAN). Using laser fluorometry to determine the content of plant pigments in the intestines of zooplankton. OKNOA, no. 5, 1987, 852-856.
810. Pinkevich, I.P.; Reshetnyak, V.Yu. (). Effect of conformational degrees of freedom of molecules on the Raman bandwidth in liquid crystals. OPSPA, v. 64, no. 1, 1988, 210-212.
811. Piskarskas, A. (VilGU). Physics of lasers and spectroscopy. Cited in LFSBA, no. 1, 1988, 87.
812. Plekhanov, V.G. (). Longwave optical vibrations in  $\text{LiH}(4-x)\text{D}(x)$  crystals. PZTFD, no. 4, 1988, 303-307.
813. Ponomareva, L.A.; Baulin, Ye.V. (IOAN). Laser fluorimetric spectrum analysis of the chlorophyll content in the alimentary canal of tropical species of euphausiids. OKNOA, no. 5, 1987, 848-850.
814. Priyutov, M.V.; Burova, T.G. (). Hertzberg-Teller effect and intensity distribution in resonance Raman spectra of polyatomic molecules. OPSPA, v. 64, no. 1, 1988, 182-185.
815. Radayev, V.N. (ISAN). Laser photoionization spectroscopy study on thermal atomization of aluminum and gallium compounds in a vacuum. ISAN. Preprint, no. 20, 1987, 1-19. (RZFZA, 88/2L99).
816. Rentsch, S.K. (). Effect of the solvent on picosecond relaxation processes in monomeric and aggregated dyes (in English). *Primeniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike*. CVShPLAM, 3rd, Vil'nyus, 27 Aug -4 Sep 1984. *Trudy. Vil'nyus, Mokslas*, 1986, 486-499. (RZELD, 88/1D202).
817. Ryzhikov, V.A.; Mirogorodskiy, A.P. (). Vibrational spectrum of piezoelectric lithium metagermanate crystal. OPSPA, v. 64, no. 1, 1988, 84-86.
818. Samokhin, S.P.; Chernova, N.I. (). Instrument function of a laser heterodyne spectrometer with a diffraction grating. OPSPA, v. 64, no. 2, 1988, 460-461.

819. Shagidullin, R.R.; Shakirov, I.Kh.; Sobolev, P.N.; Chadayeva, N.A. (IOFKh). Preparation, vibrational spectra and conformation of 2X-4H, 7H-5,6-benzo-1,3,2-dithya-arsepnye molecules. IASKA, no. 1, 1988, 182-185.
820. Sheretov, E.P.; Yastrebkov, A.B.; Kolotilin, B.I.; Suslov, A.I.; Safonov, M.P.; Ovchinnikov, S.P.; Terekhin, A.V. (RRTI). Method to analyze ions in an ion-trap hyperboloid mass spectrometer. OTIZD, no. 16, 1987, 1307493. (RZFZA, 88/1V329).
821. Skok, M.Yu.; Chesnokov, Ye.N. (IKhKG; NGU). Laser Stark spectroscopy recording of the SiF(sub2) radical. KHFID, no. 2, 1988, 228-234.
822. Stakvilyavichyus, R. (VilGU). Anomalous scattering of the spectrum of picosecond light pulses in various materials. Cited in LFSBA, no. 1, 1988, 89.
823. Sukach, G.A.; Kaganovich, E.B.; Svechnikov, S.V. (). Formation of radiative recombination centers in CdSe films. IVNMA, no. 8, 1987, 1390-1391. (RZFZA, 88/1L455).
824. Tikhomirova, N.K.; Tikhomirov, A.G. (OFiMB). Effect of the size of the scatterers on the recordable frequency in laser Doppler spectroscopy systems. KVEKA, no. 1, 1988, 218-222.
825. Timchenko, A.A.; Griko, N.B.; Serdyuk, I.N. (). Resolving power of dynamic light scattering for binary systems. OPSPA, v. 64, no. 2, 1988, 343-349.
826. Vershinin, V.I.; Sanina, O.V. (). Effect of the composition of the sample composition and method of recording the quasilinear luminescence spectrum, on the reliability of computer identification of individual polyarenes. ZPSBA, v. 48, no. 2, 1988, 248-252.
827. Vlasenko, A.A.; Lakova, I.S.; Rudnev, S.N. (ISAN). Excitation of visible luminescence in gaseous oxygen by neodymium laser radiation. ISAN. Preprint, no. 23, 1987, 1-26. (RZFZA, 88/2L441).
828. Vlasov, R.A.; Churkin, A.V. (). Transient coherent Raman scattering under light echo conditions. DBLRA, no. 9, 1987, 805-808. (RZFZA, 88/2L1452).
829. Voron'ko, Yu. K.; Yershova, L. M.; Yes'kov, N. A.; Kudryavtsev, A. B.; Osiko, V. V.; Sobol', A. A.; Sorokin, Ye. V. (IOF). Raman scattering in solid solutions with a garnet structure. FTVTA, no. 2, 1988, 512-519.



830. Voropay, Ye.S.; Gorbachev, S.M.; Sayechnikov, V.A.; Cherenda, N.G. (). Recombination luminescence in cerium-doped quartz glass. ZPSBA, v. 48, no. 2, 1988, 228-233.
831. Yershov, A.I.; Krasnikov, V.V.; Pshenichnikov, M.S.; Solomatin, V.S. (). Coherent four-photon spectroscopy of the dynamic Stark effect. OPSPA, v. 64, no. 2, 1988, 382-389.
832. Zadkov, V.N.; Kozlov, P.V.; Losef, S.A.; Pavlov, V.A. (IMMGU). Coherent spectroscopy of shock waves. KVEKA, no. 1, 1988, 118-126.
833. Zhukauskas, A.; Tamulaytis, G. (VilGU). Processes of energy exchange in strongly excited polar semiconductors. LFSBA, no. 1, 1988, 105-106.
834. Zolotov, S.I.; Kolesnikov, I.V.; Yunovich, A.E. (MGU). Photoluminescence of double heterostructures consisting of lead tin chalcogenides. FTTPA, no. 9, 1987, 1566-1571.

## J. BEAM-TARGET INTERACTION

### 1. Miscellaneous Targets

835. Ageyev, V.P.; Baranenko, I.V.; Barysh, A.B.; Velikov, L.V.; Konov, V.I.; Maslakov, A.I.; Mel'nikov, V.M. (IOF). Surface microstructuring from UV laser and e-beam decomposition of metal resonant films. IOF. Preprint, no. 278, 1987, 1-33. (RZFZA, 88/1Ye1109).
836. Ageyev, V.P.; Chernishev, A.F.; Gorbunov, A.A.; Konov, V.I.; Kuzmichev, A.V.; Orlikovskiy, A.A. (). Intense UV laser radiation interaction with surfaces (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 253-279. (RZFZA, 88/2L1500).
837. Akim, E.L.; Spesivtsev, B.I.; Serdyukov, V.V.; Khvostova, N.O.; Malkin, A.I. (LTITsBP). Method to determine the cohesive strength of coatings with a substrate. OTIZD, no. 48, 1986, 1280498. (RZELD, 88/1D200).
838. Baranova, G.K.; Gorbunov, A.V.; Koval', Yu.I. (GOI). Effect of chemical and thermal processing on the depth of damaged layers of polished surfaces of alkali-halide crystals. OPMPA, no. 2, 1988, 45-47.

839. Blistanov, A.A.; Vasil'yeva, L.A.; Gori, I.A.; Kugayenko, O.M.; Kozlova, N.S. (MISIS). Laser ageing of potassium chloride crystals. VINITI. Deposit, no. 6474-V87, 3 Sep 1987, 18 p. (RZFZA, 88/1L1268).
840. Budkevich, B.A.; Ges', I.A.; Zhvavy, S.P.; Ivlev, G.D.; Pilipovich, V.A.; Romanov, I.M. (). Laser processing of WO(3) electrochromic films in a fundamental absorption field. FKOMA, no. 1, 1988, 39-43.
841. Dianov, Ye.M.; Kashin, V.V.; Masychev, V.I.; Perminova, V.N.; Perminov, S.M.; Rusanov, S.Ya.; Sysoyev, V.K. (IOF). Controlling the manufacturing process of lightguides by means of a laser heater. INFZA, v. 54, no. 2, 1988, 241-248.
842. Gavrilyuk, V.S.; Ivanov, V.V.; Izmaylova, G.M. (). Study on the process of melting of the front wall of a weldpool under the action of a laser beam. IVUSA, no. 1, 1988, 118-121.
843. Kafedzhiev, S. (). Change in absorption and probability of damage (in Bulgarian). Nauchni trudove na Plovdivski universitet. Fizika, no. 1, 1985, 97-100. (RZFZA, 88/1Ye1104).
844. Kovacs, L.; Foldvari, I.; Polgar, K. (). LiNbO(sub3) crystals resistant to laser damage (in English). APHUE, no. 2, 1987, 223-226. (RZFZA, 88/1N885).
845. Makarov, V.I.; Yermishkina, N.N.; Bakeyeva, L.A.; Igritskiy, V.I. (). Current status and prospects for development of laser industrial facilities abroad. Informelektro. Obzornaya informatsiya. Elektrosvarochnyye oborudovaniya, no. 1/5, 1987, 1-41. (RZFZA, 88/2L1503).
846. Makshantsev, B.I.; Manykin, E.A. (IAE). Kinetics in the development of surface structures under the action of laser radiation on solids. IAE. Preprint, no. 4465/9, 1987, 16 p. (RZFZA, 88/2Ye1122).
847. Manukhin, A.V.; Plaksin, O.A.; Stepanov, V.A. (). Relaxation of laser excitation in V(sub2)O(sub5). FKOMA, no. 1, 1988, 127-128.
848. Miller, A.M.; Soustov, L.V. (IPF). Study on absorption and laser damage to KDP and DKDP crystals. IPF. Preprint, no. 169, 1987, 1-25. (RZFZA, 88/2L1407).

849. Pompe, W.; Scheibe, H.J.; Kessler, G.; Richter, A.; Weiss, H.J. (). Laser induced phase transformation and vapor deposition of amorphous and crystalline carbon phases (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 331-355. (RZFZA, 88/2Ye1126).
850. Smirnov, V.N. (). Reducing the threshold of optical breakdown near the surface of plastically deformed crystals. PZTFD, no. 4, 1988, 316-321.
851. Volgunov, D.G.; Gudkov, A.A. (GGU). Sputtering of matter under the interaction between laser plasma and the surface of solids. VINITI. Deposit, no. 6567-V87, 8 Sep 1987, 55-62. (RZFZA, 88/1L1279).

## 2. Metal Targets

852. Alimov, D.T.; Luk'yanchuk B.S.; Omel'chenko, A.I.; Khabibullayev, P.K. (). Effect of the temperature gradient on the kinetics of the process of surface oxidation under laser action. FKOMA, no. 1, 1988, 50-53.
853. Antsiferov, V.N.; Bobrova, S.N.; Melekhin, I.V.; Shtennikov, S.V. (). Effect of laser processing on the structure and surface properties of powdered alloyed steels. FKOMA, no. 1, 1988, 79-83.
854. Babenko, S.P.; Yakovlev, M.A. (). Determining the parameters of a plasma flare over a metal target irradiated by a CO<sub>2</sub> industrial laser. FKOMA, no. 1, 1988, 44-49.
855. Baskov, A.F.; Denisov, V.I.; Safonov, A.N.; Tarasenko, V.M.; Tikhonov, V.N.; Shchavelin, V.M. (). Structures arising under the action of laser radiation on zirconium alloys. EOBMA, no. 4, 1987, 26-29. (RZFZA, 88/1Ye1125).
856. Brover, G.I.; Varavka, V.N.; Fedosiyenko, S.S. (). Effect of the structure of laser alloyed tool steels on the formation of their basic service properties. FKOMA, no. 1, 1988, 120-126.
857. Buzykin, O.G.; Yefimov, B.G.; Konov, V.I.; Kuzyayev, P.N.; Lavrishchev, S.V.; Lozhkin, T.Yu.; Ral'chenko, V.G. (). Change in optical properties of the surface of titanium and zirconium in the process of heating under the action of CO<sub>2</sub> laser radiation. PFKMD, no. 9, 1987, 112-120. (RZFZA, 88/1L1275).

858. Golubev, V.S.; Yevstratenko, L.P.; Laskovnev, A.P.; Chebot'ko, I.S. (FTIB). Study on the structure of aluminum powder materials subject to laser processing. VABFA, no. 1, 1988, 32-36.
859. Kokora, A.N.; Smurov, I.Yu.; Pestov, N.L.; Sumerin, V.V. (). Effect of quasi-steady-state variation in the power of c-w radiation on the parameters of the temperature field in metals. FKOMA, no. 1, 1988, 54-58.
860. Konov, V.I.; Pimenov, S.M.; Prokhorov, A.M.; Chapliyev, N.I. (IOF). Change in the emission properties of metal targets under periodic pulsed laser irradiation. KVEKA, no. 2, 1988, 422-427.
861. Krzhizhanovskiy, R.Ye.; Petukhov, A.P.; Fedotov, A.S.; Drobyshev, B.A.; Kryukov, V.G. (). Surface chrome doping of metal alloys by laser radiation. FKOMA, no. 1, 1988, 84-88.
862. Nefedov, V.I.; Vinogradov, A.R.; Sokolov, A.N.; Sanygin, V.P.; Generalov, N.A.; Zimakov, V.P.; Solov'yev, N.G. (). Change in the chemical composition of metal surfaces using absorbing layers under the action of laser radiation. PFKMD, no. 10, 1987, 130-134. (RZFZA, 88/1Ye1120).
863. Prokhorenko, V.Ya.; Duryagina, Z.A.; Pazdriy, I.P.; Pleshakov, E.I.; Tsyura, I.V. (). Effect of laser processing on the corrosion resistance of steels in lead melts. FKOMA, no. 1, 1988, 89-92.
864. Reitzenslein, W.; Pompe, W.; Brenner, B.; Winderlich, B.; Lepski, D.; Franke, R. (). Surface processing of iron raw materials by laser radiation (in German). Institut fuer Leichtbau und Oekonomische Verwendung von Werkstoffen (GDR). Mitteilungen, no. 3, 1987, 69-75. (RZELD, 88/2D352).
865. Safonov, A.N. (). Analysis of phase transitions under laser heating of steel. IVUSA, no. 2, 1988, 103-107.
866. Ursu, I.; Nistor, L.C.; Mihailescu, I.N.; Teodorescu, V.S.; Nanu, L.; Prokhorov, A.M.; Konov, V.I.; Chapliyev, N.I. (). Studies on metal oxidation under the action of c-w CO<sub>2</sub> laser radiation (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 313-330. (RZFZA, 88/1Ye1121).

### 3. Dielectric Targets

867. Ashmarin, I. I.; Bykovskiy, Yu. A.; Zysin, Ya. Yu.; Ivanov, A. Yu.; Manykin, E. A. (MIFI). Acoustic characteristics of laser breakdown in crystalline argon. KVEKA, no. 2, 1988, 393-398.
868. Bondarenko, N. G.; Yeremina, I. V.; Makarov, A. I. (). Using self-focusing to study breakdown under ultrashort interaction between light and matter [particularly glass]. KVELA, no. 33, 1987, 89-96. (RZFZA, 88/1L1270).
869. Ivanov, A. Yu. (). Acoustic characteristics of laser breakdown in dielectrics. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 103-106. (RZELD, 88/1D223).
870. Smirnov, V. N. (). Dependence of the thresholds of optical breakdown of the surfaces of transparent dielectric plates, on the angle of incidence of polarized radiation. ZTEFA, no. 1, 1988, 114-120.
871. Zhilenis, A. A.; Gul'binas, I. A.; Lukoshyus, I. P.; Maldutis, E. K.; Sakalauskas, S. V.; Yatsinavichyus, S. I. (). Effect of the polarization and intensity distribution of laser radiation on the damage threshold of optical glass. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 95-98. (RZELD, 88/1D224).
872. Zhilenis, A. A.; Gul'binas, I. A.; Maldutis, E. K.; Sakalauskas, S. V.; Yatsinavichyus, S. I. (). Typical change in the refractive index of crystal dielectrics during their local heating by laser radiation. Lazery i opticheskaya nelineynost'. CBLSLONE, 7th, Grodno, 1985. Materialy. Minsk, 1987, 99-102. (RZFZA, 88/2L1299).

### 4. Semiconductor Target

873. Arutyunov, Ye. N.; Vasil'yev, A. N.; Karpov, S. Yu.; Sokolov, I. A.; Tanklevskaya, Ye. M.; Tulupov, A. V. (FTI). Effect of interstitial impurities on the luminescence properties of implanted indium phosphide after laser annealing. PZTFD, no. 2, 1988, 176-181.
874. Avdzhyan, K. E.; Aleksanyan, A. G.; Kazaryan, R. K.; Matevosyan, L. A.; Mirzabekyan, G. E. (IRFEANArm). Laser deposition and optical study on  $Ga(x)In(1-x)As(y)Sb(1-y)$  thin films of various composition. KVEKA, no. 1, 1988, 181-183.

875. Bayazitov, R.M.; Ivlev, G.D.; Khaybullin, I.B.; Malevich, V.L.; Sannov, N.A. (KazFTI). Modification of structure and electric activation of impurities under nanosecond laser annealing of implanted silicon. FTPPA, no. 1, 1988, 79-83.
876. Gorin, Ye.A. (). Model of the formation of p-n junctions at a laser-irradiated semiconductor surface. FTPPA, no. 2, 1988, 323-325.
877. Gusakov, G.M.; Laryushin, A.I.; Em, A.S. (). Effect of thermoconductivity and absorption in semiconductors on the parameters of pulsed laser annealing of silicon. Fizicheskiye osnovy mikroelektronnykh priborov. MIET. Mokva, 1987, 28-32. (RZFZA, 88/2Ye1129).
878. Ionkus, S.I.; Maldutis, E.K.; Petskus, A.M. (). Study on the effect of the time form of a laser pulse, on the type of the temperature field induced in a semiconductor layer. LFSBA, no. 5, 1987, 596-605. (RZFZA, 88/1Ye1116).
879. Kashkarov, P.K.; Zenkov, Yu.V.; Zoteyev, A.V. (MGU). Effect of laser irradiation on the luminescence properties of GaP:S single crystals. IVUFA, no. 1, 1988, 66-70.
880. Kryukova, I.V.; Kapayev, V.V.; Kopayev, Yu.V.; Kostin, N.N. (FIAN). Electron ray annealing of cadmium sulfide. PZTFD, no. 2, 1988, 137-140.
881. Odzhayev, V.B. (). Pulsed laser annealing of ion-implanted layers of gallium arsenide. CVKVACHT, 8th, 7-9 Jan 1987. Materialy. Vol. 2. Moskva, 1987, 249-250. (RZFZA, 88/1Ye1047).
882. Rybka, V.; Odzhayev, V.; Cervena, J.; Hnatowicz, V.; Kvitek, J.; Jelinkova, H. (). Laser annealing of GaAs, dual implanted with Si and P ions (in English). CZYPA, v. B37, no. 8, 1987, 919-923. (RZFZA, 88/1Ye1115).
883. Strelalov, V.N. (STANKIN). Nonequilibrium vaporization induced by nonradiative recombination of electron-hole pairs. Energy distribution. FTPPA, no. 2, 1988, 315-317.
884. Zaginey, A.A.; Kotlyarchuk, B.K.; Kurilo, I.V.; Kushnir, Z.O.; Savitskiy, G.V. (). Structural formation of mercury telluride layers under the action of pulsed laser radiation. FZELA, no. 35, 1987, 87-94. (RZFZA, 88/1Ye1117).

## K. PLASMA GENERATION AND DIAGNOSTICS

885. Aborin, V.Yu.; Akhmetov, V.K.; Voskresenskaya, I.V.; Ganev, I.Kh.; Lebo, I.G.; Rozanov, V.B.; Khryastov, N.A.; Sherstnev, K.B. (FIAN). Neutron physical parameters of laser thermonuclear reactor blankets. FIAN. Preprint, no. 141, 1987, 12 p. (RZFZA, 88/2G105).
886. Antipov, A.A.; Basov, N.G.; Grasyuk, A.Z.; Losev, L.L.; Lutsenko, A.P.; Meshalkin, Ye.A. (). Laser plasma detection: generation of ultrahigh-frequency currents on a solid surface exposed to laser radiation (in English). Trends in Quantum Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985. Proceedings. Bucharest, Central Inst of Physics. West Berlin, Springer, 1986, 207-216. (RZFZA, 88/2G115).
887. Asinovskiy, E.I.; Vasilyak, L.M.; Nesterkin, O.P. (IVTAN). Ability of a laser spark to direct an electric discharge. PZTFD, no. 1, 1988, 41-44.
888. Balanutsa, V.N.; Belovolov, O.V.; Golubev, A.A.; Kondrashev, S.A.; Nikolayev, V.I.; Semenov, A.L.; Shamayev, O.B.; Sharkov, B.Yu. (ITEF). Electrodynamic analyzer of multicharged ions in a laser plasma. ITEF. Preprint, no. 179, 1987, 1-16. (RZFZA, 88/2G126).
889. Baranov, G.D.; Koresheva, Ye.R.; Listratov, V.I.; Merkul'yev, Yu.A.; Myuneyev, G.V.; Nikitenko, A.I.; Osipov, I.Ye.; Rogachev, A.V.; Tolokonnikov, S.M.; Chumanov, A.Ya. (FIAN). Delivery of cryogenic targets to a laser focus. FIAN. Preprint, no. 168, 1987, 1-27. (RZFZA, 88/2G108).
890. Basov, N.G.; Volovski, Ye.; Denus, S.; Zakharenkov, Yu.A.; Karnaukhov, A.A.; Mruz, V.; Sklizkov, G.V.; Farny, Yu.; Shikanov, A.S. (FIAN). Diagnostics of the neutral component of a laser compressed microsphere plasma. FIPLD, no. 1, 1988, 77-83.
891. Bedilov, M.R.; Baymuradov, M.M.; Khabibullayev, B.K. (IYaFANUz). Energy and angular distribution of silicon ions in a multielement laser plasma. IYaFANUz. Preprint, no. R-6-273, 1987, 1-12. (RZFZA, 88/2G125).
892. Bedilov, M.R.; Bykovskiy, Yu.A.; Sabitov, M.S.; Khabibullayev, B.K.; Khaitbayev, K. (IYaFANUz). Multicharged platinum ions in a multielement laser plasma. IYaFANUz. Preprint, no. R-6-272, 1987, 1-9. (RZFZA, 88/2G124).

893. Bedilov, M.R.; Kholbayev, A. (IYaFANUz). Mass spectra of multicharged ions in a laser plasma. KVEKA, no. 1, 1988, 223-228.
894. Bedilov, M.R.; Sultanov, Sh.D.; Khabibullayev, B.K.; Kholbayev, A. (IYaFANUz). Energy distribution of multicharged nickel ions emitted from a two- and multicomponent plasma. IYaFANUz. Preprint, no. R-6-247, 1987, 1-16. (RZFZA, 88/2G121).
895. Bedilov, M.R.; Sultanov, Sh.D.; Khabibullayev, B.K.; Kholbayev, A.; Tsoy, T.G. (IYaFANUz). Energy spectra of ions at the inertial stage of disintegration of a laser plasma. IYaFANUz. Preprint, no. R-6-294, 1987, 1-11. (RZFZA, 88/2G122).
896. Dashuk, P.N.; Kovtun, A.V.; Lukashenko, S.V.; Sokolov, B.N. (LPI). Laser plasma method to obtain ions from pre-excitation of a grazing discharge plasma. PZTFD, no. 3, 1988, 214-219.
897. Derzhiyev, V.I.; Zhidkov, A.G.; Mayorov, S.A.; Yakovlenko, S.I. (IOF). Role of reabsorption in experiments on observing amplification in a disintegrating laser plasma. KVEKA, no. 2, 1988, 412-421.
898. Dobkin, A.V.; Malyavina, T.B.; Nemchinov, I.V. (). Quasi-steady-state spherically symmetric currents in an intensely radiating plasma heated by laser radiation. ZPMFA, no. 1, 1988, 3-11.
899. Foerster, E.; Goetz, K.; Zimmer, D.; Glas, P.; Goetsch, A.; Koch, R.; Naumann, M.; Nickles, P.V.; Schnuerer, M.; Willi. (). Study on x-ray emission from plasmas produced by the 6-nanosecond NIXE Nd glass laser system (in English). ANPYA, no. 1, 1987, 61-73. (RZFZA, 88/2L1403).
900. Goncharov, S.F.; Serov, R.V.; Yanovskiy, V.P. (FIAN). Processing of interferograms of a laser plasma with a sharp gradient in the density profile. KRSFA, no. 7, 1987, 24-26. (RZFZA, 88/1L1260).
901. Gul'ko, V.M.; Kolomiyets, N.F.; Shikanov, A.Ye.; Yakovlev, K.I. (KIYaI). Neutron generation in a coaxial diode with a ring laser plasma source of ions. UFIZA, no. 2, 1988, 194-198.



902. Kirichenko, N.N.; Nikitin, A.O.; Perezhogin, V.B. ().  
 Calculative analysis of the instrument spectrum of an  
 integrated time-of-flight spectrometer for thermonuclear  
 ions in a laser plasma. *Detektory izlucheniya i  
 yaderno-fizicheskiy eksperiment. MIFI. Moskva,  
 Energoatomizdat, 1987, 25-38. (RZFZA, 88/2V569).*
903. Kiselevskiy, L.I.; Mazurenko, S.L.; Shkurko, V.V. ().  
 Accelerated ions in the surface layer of a laser plasma.  
*CVKVACHT, 8th, 7-9 Jan 1987. Materialy. Vol. 3. Moskva,  
 1987, 103-104. (RZFZA, 88/1G124).*
904. Koldashov, G.A.; Fayenov, A.Ya. (VNIFTRI). Lasing in a  
 plasma produced by a ruby laser with wavefront reversal.  
*KVEKA, no. 1, 1988, 185-190.*
905. Korobkin, V.V.; Motylev, S.L. (IOF). Wave mechanism in  
 the spontaneous generation of magnetic fields in a laser  
 plasma. *IOF. Preprint, no. 197, 1987, 16 p. (RZFZA,  
 88/2G97).*
906. Korobkin, V.V.; Romanovskiy, M.Yu. (IOF). Effect of  
 electrostriction on the dynamics of a laser spark under  
 slow combustion. *KVEKA, no. 2, 1988, 430-432.*
907. Latyshev, S.V.; Rudskoy, I.V. (ITEF). Comparison of  
 potential possibilities of a laser-produced plasma at  
 various wavelengths. *ITEF. Preprint, no. 120, 1-20.  
 (RZFZA, 88/2L1402).*
908. Mulser, P. (). Inertial confinement fusion with lasers  
 or particle beams (in English). *Trends in Quantum  
 Electronics. CCTQElec, 2nd, Bucharest, 2-6 Sep 1985.  
 Proceedings. Bucharest, Central Inst of Physics. West  
 Berlin, Springer, 1986, 463-479. (RZFZA, 88/1G116).*
909. Nikolayev, V.I.; Semenov, A.L.; Shamayev, O.B. (ITEF).  
 Electrodynamic [plasma] analyzer. *ITEF. Preprint, no.  
 175, 1987, 20 p. (RZFZA, 88/2G123).*
910. Vovchenko, V.I.; Volyak, T.B.; Kas'yanov, Yu.S.;  
 Krasnyuk, I.K.; Pashinin, P.P.; Prokhorov, A.M.;  
 Semenov, A.Yu. (IOF). Interaction between laser  
 radiation and conical shell targets. *IOF. Preprint, no.  
 179, 1-43. (RZFZA, 88/2L1394).*
911. Zakharov, N.S.; Shaynoga, I.S. (). Structure of magnetic  
 fields in plasma flares. *KVEKA, no. 2, 1988, 428-430.*

### III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

912. Abdullayev, F.Kh.; Darmanyanyan, S.A.; Khabibullayev, P.K. (). Optical solitons. Opticheskiye solitony. Tashkent, Fan, 1987, 200 p. (RZFZA, 88/2L1373).
913. Andreyev, A.V.; Yemel'yanov, V.I.; Il'inskiy, Yu.A. (). Cooperative phenomena in optics. Superradiance. Bistability. Phase transitions. Kooperativnyye yavleniya v optike: Sverkhizlucheniye. Bistabil'nost'. Fazovyye perekhody. Series: Sovremennyye problemy fiziki (Current problems in physics). Moskva, Nauka, 1988, 288 p.
914. Andreyev, L.N.; Grammatin, A.P.; Kiryushin, S.I.; Kuzichev, V.I. (). Collection of problems on the theory of optical systems. Textbook. Sbornik zadach po teorii opticheskikh sistem. Uchebnoye posobiye. MIIGAiK. Moskva, Mashinostroyeniye, 1987, 192 p.
915. Basov, N.G. (). Quantum electronics. Articles and public appearances. O kvantovoy elektronike. Stat'i i vystupleniya. Moskva, nauka, 1987, 399 p. (RZELD, 88/2D1).
916. Belyakov, V.A. (). Diffraction optics of periodic media with a complex structure. Difraktsionnaya optika periodicheskikh sred slozhnoy struktury. Moskva, Nauka, 1988, 256 p. (some pages failed to print and are blank).
917. Borets, A.N.; Khiminets, V.V.; Turyanitsa, I.D.; Kikineshi, A.A.; Semak, D.G. (). Complex glassy chalcogenides. Preparation, properties and application. Slozhnyye stekloobraznyye khal'kogalogenidy: polucheniye, svoystva i primeneniye. L'vov, Vishcha shkola, 1987, 186 p. (RZFZA, 88/2N1075).
918. Dumarevskiy, Yu.D.; Kovtonyuk, N.F.; Savin, A.I. (). Image conversion in semiconductor-dielectric structures. Preobrazovaniye izobrazheniy v strukturakh poluprovodnik-dielektrik. Moskva, Nauka, 1987, 176 p. (RZFZA, 88/1L723).
919. Gavrilenko, V.I.; Grekhov, A.M.; Korbutyak, D.V.; Litovchenko, V.G. (). Optical properties of semiconductors. Handbook. Opticheskiye svoystva poluprovodnikov. Spravochnik. IPANUk. Kiyev, Naukova dumka, 1987, 608 p.

920. Gershenson, Yu.M.; Rozenshteyn, V.B.; Nalbandyan, A.B. (). Magnetic resonance in gases. Electron paramagnetic resonance and laser magnetic resonance. Magnitnyy rezonans v gazakh. Elektronnyy paramagnitnyy rezonans i lazernyy magnitnyy rezonans. Yerevan, Akademiya nauk Armyanskoy SSR, 1987, 371 p. (RZFZA, 88/2A45).
921. Golubev, V.S.; Lebedev, F.V. (). Laser engineering and technology. Book 1. Physical fundamentals of industrial lasers. Textbook. Lazernaya tekhnika i tekhnologiya. Kniga 1. Fizicheskiye osnovy tekhnologicheskikh lazerov. Uchebnoye posobiye. Moskva, Vysshaya shkola, 1987, 191 p. (RZELD, 88/2D343).
922. Gurevich, S.B.; Sokolov, V.K. (eds). (). Optical and digital image processing. Opticheskaya i tsifrovaya obrabotka izobrazheniy. OOFA. NSPGAN. Leningrad, Nauka, 1988, 176 p.
923. Herrmann, J.; Wilhelmi, B. (). Lasers for ultrashort light pulses (in English). East Berlin, Akademie Verlag, 1987, 302 p. (RZELD, 88/1D1).
924. Hologram optical elements and their use in industry. All-Union seminar. Summaries of the reports. Gologrammnyye opticheskiye elementy i ikh primeneniye v promyshlennosti. CVSGOEPP. Tezisy dokladov. GOI. Leningrad, 1987, 70 p. (RZFZA, 88/2L579).
925. International Summer School on Lasers in Polymer Research, Leipzig, 5-11 Jul 1987. (All in English). CISSLPre, Leipzig, 5-11 Jul 1987. Wissenschaftliche Berichte Technische Hochschule. Leipzig, no. 6, 1987, 1-128. (RZFZA, 88/1L959).
926. Kabelka, V.I. (ed). (). Ultrafast processes in spectroscopy. International symposium, 5th, Vilnius, 22-25 Aug 1987. Summaries of the reports (in Russian and English). Sverkhbystryye protsessy v spektroskopii. CMSSPSpe, 5th, Vil'nyus, 22-25 Aug 1987. Tezisy dokladov. IFANLi. Vil'nyus, 1987, 309 p. (RZFZA, 88/1L956).
927. Karlov, N.V. (MFTI). Lectures on quantum electronics. Textbook. Lektsii po kvantovoy elektronike. Uchebnoye rukovodstvo. 2nd edition revised and enlarged. Moskva, Nauka, 1988, 336 p.
928. Konyukhov, V.K. (ed). (IOF). Physical processes in low-temperature gasdynamic lasers. Fizicheskiye protsessy v nizkotemperaturnykh gazodinamicheskikh lazerakh. IOF. Trudy, no. 12. Moskva, Nauka, 1988, 136 p.

929. Kopvillem, U.Kh.; Maslova, M.G. (ed). (). Using laser and narrowband incoherent electromagnetic radiation in biophysics and medicine. *Primeneniye lazernogo i uzkopolosnogo nekogerentnogo elektromagnitnogo izlucheniya v biofizike i meditsine*. TOI. Vladivgосmedinst. Vladivostok, 1988, 136 p.
930. Kravchenko, V.A.; Orlov, A.N.; Petrov, Yu.N.; Prokhorov, A.M. (IOF). Heterogeneous resonance processes in laser fields. *Rezonansnyye geterogennyye protsessy v lazernom pole*. IOF. Trudy, no. 11. Moskva, Nauka, 1988, 160 p.
931. Kuzakov, S.M.; Parfianovich, I.A. (). Electron excitation and radiation defects in lanthanum halides. *Elektronnyye vzbuzhdeniya i radiatsionnyye defekty galogenidov lantana*. IGU. Irkutsk, 1987, 127 p. (RZFZA, 88/2L299).
932. Laysaar, A.I. (ed). (). Luminescence of molecules and crystals. All-Union conference, Tallin, 27-29 Oct 1987. Summaries of the reports. *Lyuminestsentsiya molekul i kristallov*. CVSLMKri, Tallin, 27-29 Oct 1987. Tezisy dokladov. Tallin, 1987, 222 p. (RZFZA, 88/2L438).
933. Nakhodkin, N.G.; Goncharenko, V.I.; Zikov, G.A.; Markov, V.B.; Popov, Yu.P.; Zolotar', A.V.; Aubakirov, A.F.; Nikonenko, G.N. (). Lasers in crime solving and courtroom expert testimony. *Lazery v kriminalistike i sudebnykh ekspertizakh*. Kiyev, Vishcha shkola, 1986, 231 p.
934. Orayevskiy, A.N. (ed). (FIAN). Resonance interaction between radiation and matter. *Rezonansnoye vzaimodeystviye izlucheniya s veshchestvom*. FIAN. Trudy, no. 187. Moskva, Nauka, 1988, 224 p.
935. Physical fundamentals of microelectronic instruments. *Fizicheskiye osnovy mikroelektronnykh priborov*. MIET. Moskva, 1987, 143 p. (RZFZA, 88/1N336).
936. Popov, G.M. (). Modern astronomical optics. *Sovremennaya astronomicheskaya optika*. Moskva, Nauka, 1988, 192 p.
937. Prokhorov, A.M.; Ursu, I. (eds). (). Trends in Quantum Electronics. Conference. CCTQElec. 2nd, Bucharest, 2-6 Sep 1985. Proceedings (all in English). Bucharest, Central Institute of Physics. West Berlin, Springer, 1986, 559 p. (RZFZA, 88/1L961).

938. Rayzer, Yu.P. (). Gas discharge physics. Fizika gazovogo razryada. Moskva, Nauka, 1987, 591 p. (RZFZA, 88/1G348).
939. Sakerin, S.M. (ed). (). Equipment for remote probing of atmospheric parameters. Apparatura distantsionnogo zondirovaniya parametrov atmosfery. Tomskiy filial SOAN. Tomsk, 1987, 166 p.
940. Savel'yev, I.V. (MIFI). Course on general physics. Vol. 3. Quantum optics. Atomic physics. Physics of the atomic nucleus and elementary particles. Textbook. Kurs obshchey fiziki. Tom 3. Kvantovaya optika. Atomnaya fizika. Fizika atomnogo yadra i elementarnykh chastits. Uchebnoye posobiye. 3rd ed. revised. Moskva, Nauka, 1987, 317 p. (RZFZA, 88/1A56).
941. Siforov, V.I.; Yaroslavskiy, L.P. (eds). (). Adaptive methods for image processing. Adaptivnyye metody obrabotki izobrazheniy. IPPI. Moskva, Nauka, 1988, 248 p.
942. Sikharulidze, D.G.; Chilaye, G.S. (). Metal-dielectric-semiconductor/electrooptic-material image converters. Preobrazovateli izobrazheniy tipa MDP-elektroopticheskiy material. Series: Massovaya biblioteka inzhenera "Elektronika" (Elektronika Engineer's Data Bank Library). Moskva, Radio i svyaz', 1986, 112 p.
943. Steger, W.E. (ed). (). Progress in Polymer Spectroscopy. European Symposium. CESPPSpe, 7th, Dresden, 15-18 Oct 1985. Proceedings (all in English). Teubner-Texte Physik, Band 9. Leipzig, B.G. Teubner Verlagsgesellschaft, 1986, 388 p. (RZFZA, 88/2L102).
944. Svechnikov, G.S. (). Integrated optics. Integral'naya optika. Kiyev, Naukova dumka, 1988, 168 p.
945. Use of lasers in atomic, molecular and nuclear physics. Vilnius school, 3rd, Vilnius, 27 Aug - 4 Sep 1984. Proceedings. Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike. CVShPLAM, 3rd, Vil'nyus, 27 Aug - 4 Sep 1984. Trudy. Vil'nyus, Mokslas, 1986, 647 p. (RZELD, 88/1D180).

946. Use of lasers in technology and in information transmitting and processing systems. All-Union Conference, 3rd, Tallin, 11-13 Nov 1987. Summaries of the reports. Vol. 1. Laser technology. Vol. 2. Laser measuring systems. Vol. 3. Laser systems for information transmission and processing. Vol. 4. Using lasers to study and monitor the environment. *Primeneniye lazerov v tekhnologii i sistemakh peredachii obrabotki informatsii.* CVKPLTSP, 3rd, Tallin, 11-13 Nov 1987. Tezisy dokladov. Tallin, 1987. Tom 1. Lazernaya tekhnologiya. 199 p. Tom 2. Lazernyye izmeritel'nyye sistemy. 185 p. Tom 3. Lazernyye sistemy peredachi i obrabotki informatsii. 156 p. Tom 4. *Primeneniye lazerov dlya izucheniya i kontrolya okruzhayushchey sredy.* 75 p. (RZELD, 88/2D344,345,380, RZFZA, 88/2L1477).
947. Vasil'yev, A.A. (ed). (). All-Union Conference on Charged Particle Accelerators, 10th, Dubna, 21-23 Oct 1986. Proceedings. Volumes 1 and 2. CVSUZCha, 10th, Dubna, 21-23 Oct 1986. *Trudy. OIYaI. Dubna, 1987. Tom 1, 464 p. Tom 2, 441 p.* (RZFZA, 88/1V336,337).
948. Vasil'yev, A.N.; Mikhaylin, V.V. (). Introduction to spectroscopy of solids. *Vvedeniye v spektroskopiyu tverdogo tela.* MGU. Moskva, 1987, 192 p. (RZFZA, 88/1L288).
949. Voytovich, A.P.; Severikov, V.N. (IFANB). Lasers with anisotropic resonators. *Lazery s anizotropnymi rezonatorami.* Minsk, Nauka i tekhnika, 1988, 271 p.

#### IV. SOURCE ABBREVIATIONS

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

AKZHA	Akusticheskiy zhurnal (CTC)
ANPYA	Annalen der Physik (Leipzig)
APHUE	Acta physica hungarica (Budapest)
AVMEB	Avtometriya (CTC)
CBLSLONe	Belorussko-Litovskiy seminar: Lazery i opticheskaya nelineynost'
CCTQElec	Conference: Trends in Quantum Electronics
CESPPSpe	European Symposium: Progress in Polymer Spectroscopy
CISSLPre	International Summer School on Lasers in Polymer Research
CMKUChVE	Mezhdunarodnaya konferentsiya po uskoritelyam chastits vysokikh energiy
CMShSFTI	Mezhdunarodnaya shkola-seminar po fizike tyazhelykh ionov
CMSSPSpe	Mezhdunarodnyy simpozium: Sverkhbystryye protsessy v spektroskopii
CRABA	Bolgarskaya akademiya nauk. Doklady
CRTED	Crystal Research and Technology (East Berlin)
CSSPUNTP	Seminar: Segneto- i p'yezoelektriki v uskorenii nauchno-tekhnicheskogo progressa
CVKFKhUS	Vsesoyuznaya konferentsiya: Fizikokhimiya ul'tradispersnykh sistem
CVKPLTSP	Vsesoyuznaya konferentsiya: Primeneniye lazerov v tekhnologii i sistemakh peredachi i obrabotki informatsii
CVKVACHT	Vsesoyuznaya konferentsiya: Vzaimodeystviye atomnykh chastits s tverdyim telom

CVSGOEPP	Vsesoyuznyy seminar: Gologrammnyye opticheskiye elementy i ikh primeneniye v promyshlennosti
CVShPLAM	Vil'nyuskaya shkola: Primeneniye lazerov v atomnoy, molekulyarnoy i yadernoy fizike
CVSLMKri	Vsesoyuznoye soveshchaniye: Lyuminestsentsiya molekul i kristallov
CZYPA	Czechoslovak Journal of Physics
DANAA	Akademiya nauk Armyanskoy SSR. Doklady
DANKA	Akademiya nauk SSSR. Doklady (CTC)
DANTA	Akademiya nauk Tadzhikskoy SSR. Doklady
DBLRA	Akademiya nauk BSSR. Doklady
EKVZA	Elektrosvyaz' (CTC)
ELKTA	Elektrotehnika (CTC)
ELVEA	Elektrotehniski vjesnik
EOBMA	Elektronnaya obrabotka materialov (CTC)
ETFMB	Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika
EXPPA	Eksperimentelle Technik der Physik
FGVZA	Fizika goreniya i vzryva (CTC)
FIPLD	Fizika plazmy (Moskva, AN SSSR) (CTC)
FKOMA	Fizika i khimiya obrabotki materialov
FKSTD	Fizika i khimiya stekla (CTC)
FNMKA	Finomechanika, mikroelektronika (Budapest)
FNTED	Fizika nizkikh temperatur (Kiyev) (CTC)
FTPPA	Fizika i tekhnika poluprovodnikov (CTC)
FTVTA	Fizika tverdogo tela (CTC)
FZELA	Fizicheskaya elektronika (sbornik, L'vov)



IAAFA	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IANFA	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya (CTC)
IASKA	Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya (CTC)
INFZA	Inzhenerno-fizicheskiy zhurnal (CTC)
IUZFA	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriyafiziko-matematicheskikh nauk
IVNMA	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy (CTC)
IVUBA	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye (CTC)
IVUFA	Izvestiya vysshikh uchebnykh zavedeniy. Fizika (CTC)
IVUSA	Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye
IVUZB	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVYRA	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika (CTC)
IZTEA	Izmeritel'naya tekhnika (CTC)
KHFID	Khimicheskaya fizika (CTC)
KHVKA	Khimiya vysokikh energiy (CTC)
KRISA	Kristallografiya (CTC)
KRSFA	Kratkiye soobshcheniya po fizike (CTC)
KVEKA	Kvantovaya elektronika (journal, Moskva) (CTC)
KVELA	Kvantovaya elektronika (sbornik, Kiyev)
LFSBA	Litovskiy fizicheskiy sbornik (CTC)
MTRLB	Metrologiya

OKNOA	Okeanologiya (CTC)
OPMPA	Optiko-mekhanicheskaya promyshlennost' (CTC)
OPSPA	Optika i spektroskopiya (CTC)
OPTED	Optoelektronika i poluprovodnikovaya tekhnika (Kiyev)
OTIZD	Otkrytiya, izobreteniya
PFKMD	Poverkhnost'. Fizika, khimiya, mekhanika (Moskva) PRBRDPriborostroyeniye (sbornik, Minsk)
PRSUB	Pribory i sistemy upravleniya (CTC)
PRTEA	Pribory i tekhnika eksperimenta (CTC)
PSSBB	Physica status solidi (B). Basic Research (GDR)
PSTFA	Postepy fizyki
PZTFD	Zhurnal tekhnicheskoy fiziki. Pis'ma (CTC)
PZTKA	Przeglad telekomunikacyjny
RAELA	Radiotekhnika i elektronika (journal, Moskva) (CTC)
RATEA	Radiotekhnika (journal, Moskva) (CTC)
RRPQA	Revue Roumaine de Physique
RTKHA	Radiotekhnika (sbornik, Khar'kov)
RZELD	Referativnyy zhurnal. Elektronika
RZFZA	Referativnyy zhurnal. Fizika
RZGFA	Referativnyy zhurnal. Geofizika
SCEFA	Studii si cercetari de fizica
SLOZA	Slaboproudy obzor
TKTEA	Tekhnika kino i televideniya
TVYTA	Teplofizika vysokikh temperatur (CTC)

UFIZA	Ukrainskiy fizicheskiy zhurnal (Russian language version) (CTC)
VABFA	Beloruskiy universitet. Vestnik. Seriya fiziko-tekhnicheskikh nauk
VBMFA	Beloruskiy universitet. Vestnik. Seriya 1. Matematika, fizika, mekhanika
VBSFA	Akademiya nauk Belorussoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
VEOFA	Vestnik oftal'mologii
VMUFA	Moskovskiy universitet. Vestnik. Fizika, astronomiya (CTC)
WDTEA	Wiadomosci telekomunikacyjne
ZETFA	Zhurnal eksperimental'noy i teoreticheskoy fiziki (CTC)
ZFPRA	Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma (CTC)
ZNPFA	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii (CTC)
ZPMFA	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki (CTC)
ZPSBA	Zhurnal prikladnoy spektroskopii (CTC)
ZTEFA	Zhurnal tekhnicheskoy fiziki (CTC)

## V. AUTHOR AFFILIATIONS

### AKIN

Akusticheskiy institut AN SSSR  
Acoustics Institute, Academy of Sciences USSR

### ArmNIINTI

Armyanskiy NII nauchno-tekhnicheskoy informatsii i  
tekhniko-ekonomicheskikh issledovaniy Gosplana  
Armyanskoy SSR  
Armenian Scientific Research Institute of Scientific and  
Technical Information and of Technical Economic Studies  
for the State Plan of the Armenian SSR, Yerevan

### AzTI

Azerbaydzhanskiy tekhnologicheskiy institut  
Azerbaydzhan Technological Institute, Kirovabad

### BGU

Belorusskiy gos universitet  
Belorussian State University

### DGPI

Drogobychskiy gosudarstvennyy pedagogicheskiy institut  
Drogobych State Pedagogical Institute

### DGU

Dnepropetrovskiy gosudarstvennyy universitet  
Dnepropetrovsk State University

### FIAN

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

### FIANKuy

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

### FTI

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

### FTIANTadzh

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

### FTIB

Fiziko-tekhnicheskiy institut AN BSSR  
Physicotechnical Institute, Academy of Sciences  
Belorussian SSR

### FTIT

Fiziko-tekhnicheskiy institut, Tomsk  
Physicotechnical Institute, Tomsk

**GGU**  
 Gor'kovskiy gos universitet  
 Gor'kiy State University

**Giredmet**  
 Gos NI i proyektnyy institut redkometallicheskey  
 promyshlennosti  
 State Scientific Research and Planning Institute of the Rare  
 Metals Industry

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

**GrodGU**  
 Grodnenskiy gos universitet  
 Grodno State University

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

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

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

**IEANUz**  
 Institut elektroniki AN UzSSR  
 Institute of Electronics, Academy of Sciences  
 Uzbek SSR, Tashkent

**IFANAz**  
 Institut fiziki AN AzSSR  
 Institute of Physics, Academy of Sciences  
 Azerbaydzhan SSR

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

**IFANEst**  
 Institut fiziki AN EstSSR  
 Institute of Physics, Academy of Sciences Estonian SSR

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

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

**IFM**  
 Institut fiziki metallov Ural'skogo nauchnogo tsentra  
 AN SSSR  
 Institute of Physics of Metals, Ural Scientific Center,  
 Academy of Sciences USSR, Sverdlovsk

**IFPSOAN**  
Institut fiziki poluprovodnikov SOAN  
Institute of Semiconductor Physics, Siberian Branch  
Academy of Sciences USSR, Novosibirsk

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

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

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

**IGU**  
Irkutskiy gos universitet  
Irkutsk State University

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

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

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

**IKhKG**  
Institut khimicheskoy kinetiki i gorenija SOAN  
Institute of Chemical Kinetics and Combustion, Siberian  
Branch Academy of Sciences USSR, Novosibirsk

**IKhS**  
Institut khimii silikatov im Grebanshchikova AN SSSR  
Institute of Silicate Chemistry imeni Grebanshchikov,  
Academy of Sciences USSR, Leningrad

**IMMGU**  
Institut mekhaniki Moskovskogo GU  
Institute of Mechanics of Moscow State University

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

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

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

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

**IOFKh**  
Institut organicheskoy i fizicheskoy khimii  
Kazanskogo filiala AN SSSR  
Institute of Organic and Physical Chemistry,  
Kazan' Branch, Academy of Sciences USSR

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

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

**IPFANBel**  
Institut prikladnoy fiziki AN BSSR  
Institute of Applied Physics, Academy of Sciences  
Belorussian SSR

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

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

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

**IPPI**  
Institut problem peredachi informatsii AN SSSR  
Institute for Problems of Information Transmission,  
Academy of Sciences USSR, Moscow

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

**IRFEANArm**  
 Institut radiofiziki i elektroniki AN ArmSSR  
 Institute of Radiophysics and Electronics, Academy of  
 Sciences Armenian SSR, Ashtarak

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

**IrPI**  
 Irkutskiy politekhnicheskiy institut  
 Irkutsk Polytechnic Institute

**ISAN**  
 Institut spektroskopii AN SSSR  
 Institute of Spectroscopy, Academy of Sciences USSR

**ITEF**  
 Institut teoreticheskoy i eksperimental'noy fiziki  
 Institute of Theoretical and Experimental Physics, Moscow

**ITF**  
 Institut teplofiziki SOAN  
 Institute of Thermophysics, Siberian Branch Academy of  
 Sciences USSR, Novosibirsk

**ITFL**  
 Institut teoreticheskoy fiziki im Landau AN SSSR  
 Institute of Theoretical Physics imeni Landau, Academy of  
 Sciences USSR, Chernogolovka

**ITMO**  
 Institut teplo- i massoobmena AN BSSR  
 Institute of Heat and Mass Exchange, Academy of Sciences  
 Belorussian SSR

**ITTANUkr**  
 Institut tekhnicheskoy teplofiziki AN UkrSSR  
 Institute of Technical Thermophysics, Academy of Sciences  
 Ukrainian SSR

**IVTAN**  
 Institut vysokikh temperatur AN SSSR  
 Institute of High Temperatures, Academy of Sciences USSR

**IYaFANUz**  
 Institut yadernoy fiziki AN UzSSR  
 Institute of Nuclear Physics, Academy of Sciences  
 Uzbek SSR, Ulugbek

**KazFTI**  
 Kazanskiy fiziko-tekhnicheskiy institut AN SSSR  
 Kazan' Physicotechnical Institute, Academy of  
 Sciences USSR

**KazKhTI**  
 Kazanskiy khimiko-tekhnologicheskoy institut imeni  
 S.M. Kirova  
 Kazan' Chemical Technology Institute imeni S.M. Kirov

**KGPI**  
 Kuybyshevskiy gos pedagogicheskiy institut  
 Kuybyshev State Pedagogical Institute



KGU  
Kiyevskiy gos universitet  
Kiev State University

KhGU  
Khar'kovskiy gos universitet  
Khar'kov State University

KhIRE  
Khar'kovskiy institut radioelektroniki  
Khar'kov Institute of Radioelectronics

KiGU  
Kishineveskiy gos universitet  
Kishinev State University

KIYaI  
Institut yadernykh issledovaniy AN UkrSSR  
Institute of Nuclear Research, Academy of Sciences  
Ukrainian SSR, Kiev

KPIA  
Kiyevskiy politekhnicheskiy institut  
Kiev Polytechnic Institute

KrGU  
Krasnoyarskiy gos universitet  
Krasnoyarsk State University

LETI  
Leningradskiy elektrotekhnicheskiy institut  
Leningrad Electric Engineering Institute

LGI  
Leningradskiy gornyy institut imeni G.V. Plekhanova  
Leningrad Mining Institute im G.V. Plekhanov

LGU  
Leningradskiy gos universitet  
Leningrad State University

LITMO  
Leningradskiy institut tochnoy mekhaniki i optiki  
Leningrad Institute of Precision Mechanics and Optics

LPI  
Leningradskiy politekhnicheskiy institut  
Leningrad Polytechnic Institute

LTI  
Leningradskiy tekhnologicheskiiy institut  
Leningrad Technological Institute

LTITsBP  
Leningradskiy tekhnologicheskiiy institut  
tsellyulozno-bumazhnoy promyshlennosti  
Leningrad Technological Institute of the  
Wood-Pulp and Paper Industry

**MEIS**  
Moskovskiy elektrotekhnicheskiy institut svyazi  
Moscow Electrotechnical Institute of Communications

**MFTI**  
Moskovskiy fiziko-tekhicheskiy institut  
Moscow Physicotechnical Institute

**MGU**  
Moskovskiy gos universitet  
Moscow State University

**MIET**  
Moskovskiy institut elektronnoy tekhniki  
Moscow Institute of Electronic Engineering

**MIFI**  
Moskovskiy inzhenerno-fizicheskiy institut  
Moscow Engineering Physics Institute

**MIIGAiK**  
Moskovskiy institut inzhenerov geodezii,  
aerofotos"yemki i kartografii  
Moscow Institute of Engineers of Geodesy,  
Aerial Photography and Cartography

**MIIT**  
Moskovskiy institut inzhenerov zheleznodorozhnogo  
transporta  
Moscow Institute of Railroad Transport Engineers

**MIREA**  
Moskovskiy institut radiotekhniki, elektroniki i  
avtomatiki  
Moscow Institute of Radio Engineering, Electronics and  
Automation

**MISIS**  
Moskovskiy institut stali i splavov  
Moscow Institute of Steel and Alloys

**MoldNIINTI**  
Moldavskiy NII nauchno-tekhicheskoy informatsii i  
tekhniko-ekonomicheskikh issledovaniy Gosplana MSSR  
Moldavian Scientific Research Institute of Scientific  
and Technical Information and of Technical Economic  
Studies for the State Plan of the Moldavian SSR,  
Kishinev

**MVTU**  
Moskovskoye vyssheye tekhnicheskoye uchilishche im  
Baumana  
Moscow Higher Technical College imeni Bauman

NGU  
 Novosibirskiy gos universitet  
 Novosibirsk State University

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

NIIEA  
 NII elektrofizicheskoy apparatury im Yefremova  
 Scientific Research Institute of Electrophysical  
 Equipment imeni Yefremov, Leningrad

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

NIIPFI  
 NII prikladnoy fiziki pri Irkutskom gos universitete  
 Scientific Research Institute of Applied Physics at  
 Irkutsk State University

NIIPFP  
 NII prikladnykh fizicheskikh problem pri Belorusskom gos  
 universitete  
 Scientific Research Institute of Applied Physics Problems at  
 Belorussian State University

NIIRad  
 Gos NII radio  
 State Scientific Research Institute of Radio

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

NIYaFT  
 NII yadernoy fiziki pri Tomskom politekhnicheskome  
 institute  
 Scientific Research Institute of Nuclear Physics  
 at Tomsk Polytechnic Institute

NIRFI  
 NI radiofizicheskiy institut  
 Radiophysics Scientific Research Institute, Gor'kiy

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

NovgPI  
 Novgorodskiy politekhnicheskoy institut  
 Novgorod Polytechnic Institute

NPOKIANAz  
 Nauchno-proizvodstvennoye ob"yedineniye kosmicheskikh  
 issledovaniy AN AzSSR  
 Scientific Production Association of Space Research,  
 Academy of Sciences Azerbaydzhan SSR, Baku

**NSKPK**  
 Nauchnyy sovet po kompleksnoy probleme "Kibernetika"  
 AN SSSR  
 Scientific Council on Cybernetics, Academy of Sciences  
 USSR

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

**OFiMB**  
 Otdel fiziki i matematiki Bashkirskogo filiala AN SSSR  
 Department of Physics and Mathematics, Bashkir Branch  
 Academy of Sciences USSR, Ufa

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

**Omskmedinst**  
 Omskiy meditsinskiy institut  
 Omsk Medical Institut

**OOFA**  
 Otdeleniye obshchey fiziki i astronomii AN SSSR  
 Department of General Physics and Astronomy, Academy of  
 Sciences USSR, Moscow

**OTANUz**  
 Otdel teplofiziki AN Uzbekskoy SSR  
 Department of Thermophysics, Academy of Sciences  
 Uzbek SSR

**PKBE**  
 Proyektno-konstruktornoye byuro elektrogidravliki  
 AN UkrSSR  
 Planning and Design Office of Electrohydraulics,  
 Academy of Sciences Ukraininan SSR, Nikolayev

**PMMI**  
 Pervyy Moskovskiy meditsinskiy institut im Sechenova  
 First Moscow Medical Institut imeni Sechenov

**RGU**  
 Rostovskiy-na-Donu gos universitet  
 Rostov on Don State University

**RRTI**  
 Ryazanskiy radiotekhnicheskiy institut  
 Ryazan' Radio Engineering Institute

**SGU**  
 Saratovskiy gos universitet  
 Saratov State University

**SimGU**  
 Simferopol'skiy gos universitet  
 Simferopol State University

**STANKIN**  
 Moskovskiy stankoinstrumental'nyy institut  
 Moscow Machine Tool Institute

**STI**  
 Sibirskiy tekhnologicheskii institut  
 Siberian Technological Institute

**SZPI**  
 Severo-zapadnyy zaachnyy politekhnicheskii institut  
 Northwestern Correspondence Polytechnic Institute,  
 Leningrad

**TIASUR**  
 Tomskiy institut avtomatizirovannykh sistem upravleniya i  
 radioelektroniki  
 Tomsk Institute of Automated Control Systems and  
 Radioelectronics

**TOI**  
 Tikhookeanskiy okeanologicheskii institut  
 Dal'nevostochnogo nauchnogo tsentra AN SSSR  
 Pacific Oceanographic Institute, Far Eastern  
 Scientific Center, Academy of Sciences USSR,  
 Vladivostok

**TPI**  
 Tallinskiy politekhnicheskii institut  
 Tallinn Polytechnic Institute

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

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

**UzhGU**  
 Uzhgorodskiy gos universitet  
 Uzhgorod State University

**VEI**  
 Vsesoyuznyy elektrotekhnicheskii institut  
 All-Union Electrical Engineering Institute, Moscow

**VilGU**  
 Vil'nyusskiy gos universitet  
 Vilnius State University

**VINITI**  
 Vsesoyuznyy institut nauchnoy i tekhnicheskoy  
 informatsii  
 All-Union Institute of Scientific and Technical Information,  
 Moscow

**ViPI**  
 Vinnitskiy politekhnicheskii institut  
 Vinnitsa Polytechnic Institute

**Vladivgosmedinst**  
 Vladivostokskiy gos meditsinskiy institut  
 Vladivostok State Medical Institute

**VNIFTRI**  
 VNII fiziko-tekhnicheskikh i radiotekhnicheskikh  
 izmereniy  
 All-Union Scientific Research Institute of Physico- technical  
 and Radiotechnical Measurements, Moscow

**VNIIGBol**  
 VNII glaznykh bolezney  
 All-Union Scientific Research Institute of  
 Eye Diseases, Moscow

**VNIIM**  
 VNII metrologii im Mendeleyeva  
 All-Union Scientific Research Institute of Metrology  
 imeni Mendeleyev, Leningrad

**VNIIOFI**  
 VNII optiko-fizicheskikh izmereniy  
 All-Union Scientific Research Institute of  
 Optophysical Measurements, Moscow

**VNIITR**  
 Vsesoyuznyy nauchno-issledovatel'skiy institut  
 televdeniya i radioveshchaniya  
 All-Union Scientific Research Institute of Television  
 and Radio Broadcasting, Leningrad

**VNIIVODGEO**  
 VNII vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh  
 sooruzheniy i inzhenernoy gidrogeologii  
 All-Union Scientific Research Institute of Water Supply,  
 Sewer Systems, Water Development Projects, and  
 Engineering Hydrogeology, Moscow

**VNITsISPIV**  
 VNI tsentr po izucheniyu svoystv poverkhnosti i vakuuma  
 All-Union Scientific Research Center for Studying the  
 Properties of Surfaces and Vacuums, Moscow

**VOIFFTP**  
 Vitebskoye otdeleniye Instituta fiziki tverdogo tela i  
 poluprovodnikov AN BSSR  
 Vitebsk Branch of the Institute of Solid State and  
 Semiconductor Physics, Academy of Sciences  
 Belorussian SSR

**YaPI**  
 Yaroslavskiy politekhnicheskii institut  
 Yaroslav Polytechnic Institute

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BRODIN A M	79	CHEKSNOKOV A G	20	DOLZHENKO S V	3
BRODOV M YE	21	CHEKSNOKOV YE N	86	DOMARKENE D P	52
BRONSHTYUN I G	66	CHEKTKIN M V	75	DONIN V I	10
BROVER C I	89	CHIBOTAKU L E	5	D'ORDYAY V S	85
BROVKOVICH V G	71	CHICHININ A I	80	DOROKHIN A V	79
BRUNZALOV P P	12	CHICHKOV B N	27	DOROZHNIK L M	2
BRYSEV A P	37	CHIKOV V A	3	DOCMAGAMBETOV YE S	82
BRYUKVINA L I	2	CHIKUROV V A	57	DOVCHENKO D N	33, 41
BUBIS YE L	35	CHILAYE G S	99	DOVCHENKO N K	47
BUBNOV M M	47, 48	CHIPLIS D	37	DRAGANESCU V	45, 67
BUCHENKOV V A	19	CHIRVONYY V S	78	DRAXLER S	78
BUDKEVICH B A	89	CHIZHIKOV S I	36	DREYDEN G V	70
BUDZIAK A	69	CHUBAKOV P A	34	DRITS A V	85
BUFETOVA G A	48	CHUDNOVSKIY V M	45	DRITS V V	53
BUKATYY V I	55	CHUKICHEV M V	5	DROBOTENKO V V	35
BUKHENSKIY M F	42	CHUMANOV A YA	93	DROBYSHEV B A	90
BUKSHUN L M	15	CHURKIN A V	86	DROZHBIN YU A	4
BUNKIN F V	9, 65	CHURKIN YU V	70	DUBININ V A	46
BURAKOV S D	22, 23	COMANICIU N	67	DUBNISHCHEV YU N	69
BURAKOV V S	16, 33, 79	CRACIUN D	73	DUBOVSKIY P YE	67
BURDULIS SH	40	CRISTU D	9	DUBROV V V	22
BURIMOV V N	65			DUDAREVICH A L	9, 72
BURKOV S I	36	DABU R	45	DUDCHIK YU I	25
BURNASHEV M N	12	DALIDCHIK F I	65	DUDEL'ZAK A	55
BUROV L I	27	DAMM T	81	DUDEL'ZAK A YE	57
BUROVA T G	79, 85	DANELIYA N I	37	DUDKIN V A	17
BURTSEV V A	70	DANELYUS R	80	DUDOV A M	18
BUSHUYEV V D	56	DANICHKIN S A	56	DUKHOVNYI A M	63
BUTAKOV A L	8	DANILOV O B	13	DULIN M N	28
BUTENKO A V	28	DANILOV S N	5	DUL'NEV G N	51
BUTKEVICH V I	67, 79	DANILOV V P	1	DUMAREVSKIY YU D	61, 63, 96
BUTKUS K	3	DANILOV V V	24	DUMBRAVEANU G	9
BUTVINA L N	69	DAN'SHCHIKOV YE V	42	DUMITRAS D C	67
BUZANOV V I	20	DARMANYAN A P	80	DUNEV G V	73
BUZHINSKAYA I M	25	DARMANYAN S A	96	DUNINA T A	37
BUZYALIS R R	28	DASHEVSKIY B YE	67	DUPERTUIS M A	19
BUZYKIN O G	89	DASHKEVICH V I	71	DURAYEV V P	4
BYKOV A B	77	DASHUK P N	94	DURYAGINA Z A	90
BYKOVSKAYA L A	80	DATSYUK V V	16	DUTU D	45
BYKOVSKIY YU A	28, 63, 65	DAUGVILA A	28	DUTU D C A	67
	91, 93	DAVYDOV M A	9, 35	DVORNIKOV I V	65
		DAVYDOV S V	9, 17	DYADYUKOV F S	22
CARSTOCEA B	45	DEMCHUK M I	40, 70	D'YAKONOV G I	2
CENIAN A	16	DEMENT'YEV A S	28, 52	D'YAKONOV G S	70
CERVENA J	92	DEMIDOV A A	85	D'YAKOV V A	33, 41
CHADAYEVA N A	86	DEMGIN V N	23	DYATKO N A	10



DYKMAN I M	75	GANEV I KH	93	GORBUNOV M V	81
DYKMAN M I	28	GANEYEV R A	24, 33	CORBUSHIN V V	24
DYMSHAKOV V A	52	GANGRSKIY YU P	81	GORDIN M P	56
DYUBKO S F	15	GANICHEV V A	24	GORDON YE B	17
DZHOSHI R	70	GARBUL' A A	23	GORELIK A V	77
DZYUBENKO M I	9	GARBUZOV D Z	7	GORELIK S L	58
		GARKAVI A V	44	GORELOV V P	52
EBRALIDZE T D	21	GARMASH V M	1	GORI I A	88
EM A S	92	GASE R	80	GORIN G B	78
ETSIN I SH	71	GASPAROV L V	78	GORIN YE A	92
		GAVRILENKO V I	96	GORYACHEV B V	53
FADEYEV V V	81, 82, 85	GAVRILOVA T V	13	GORYACHEV L V	18
FALEYEV N N	5	GAVRILYUK V S	88	GOVORKOV S V	77
FALOVSKIY V F	47, 51	GAVRYUSHIN V	30	GOVORUN D N	81
FARADZHEV B G	36	GAWLIK W	81	GRABCHIKOV A S	16
FARNY YU	93	GAYDA L S	15	GRADECHNY CH	81
FAYENOV A YA	95	GAYDUK V F	36	GRAMMATIN A P	96
FAYNSHTEYN S M	36	GAYKO O L	67	GRASYUK A Z	93
FAYZULAYEV V N	11, 14, 16	GAYSEKOV V A	28, 81	GREBENSHCHIKOVA N I	79
FEDENEV A F	15	GAYZHAUSKAS E	28, 34	GREKHOV A M	96
FEDENEV A V	14	GENERALOV N A	90	GRIBENYUKOV A I	51
FEDORCHENKO A M	17	GENKIN V N	70	GRIGOROV V A	3
FEDOROV A B	28	GERASHCHENKO O A	67	GRIGORUK V I	48, 58
FEDOROV A V	73	GERASIMOV V B	19, 23	GRIGOR'YEV F V	18
FEDOROV M V	74	GERASIMOV V G	15	GRIGOR'YEV G YU	81, 82
FEDOROV V B	3	GERAZIMAS YE G	83	GRIGOR'YEV S F	53
FEDOROV YE A	1	GERBIN I A	51	GRIGOR'YEV YU A	76
FEDOROV YU K	7, 8, 39	GERSHENZON YU M	97	GRIKO N B	86
FEDOROVA O M	75	GERST A V	6	GRIMBLATOV V M	19
FEDORTSOV A B	70	GES' I A	88	GRIN' YU I	15
FEDOSFYEV V G	48	GESSEN S B	3	GRINKEVICH V E	3
FEDOSLYENKO S S	89	GIL' S V	81	GRISHCHENKO N A	20
FEDOTOV A S	90	GIL' V V	70	GRISHINA N V	22
FEFELOV A P	25	GIN'FOFT R I	2	GRODECKI F	13
FEKESHGAZI I V	22	GITLIN G S	68	GRODZINSKAYA M D	8, 64
FELDVARI I	79	GLADKOV S M	28	GROMOV V V	44
FELINSKIY G S	21	GLAS P	94	GROZNOV M A	71
FELLER K H	80	GLEBOV A P	48	GRUDZIEN M	23
FENNICH P A	49	GLEBOV A S	1	GRUZINSKIY V V	9, 17
FILIMONOVA L A	49	GLINKA YU D	79	GUBANOV V A	82
FILIPPOV N V	70	GLOTOV A G	52	GUDELEV V G	12
FILIPPOV V V	52	GLUSHKOV S M	81	GUDKOV A A	89
FILONOV A G	15	GOCHELASHVILI K S	29	GULAMOV A A	33
FLUCK I	22	GODLEVSKIY A P	22, 23	GUL' BINAS I A	91
FOERSTER E	94	GOETZ K	94	GULIDOV S S	34
FOFANOV YA A	67	GOL'DINOV L L	70	GULIS I M	40
FOLDVARI I	88	GOL'DSHTEYN S SH	71	GUL'KO V M	94
FOMICHEV A A	40	GOLOBOV A YE	66	GULYAYEV YU V	4
FOMIN V M	81	GOLOVEY M I	29	GUMINETSKIY S G	53
FOMIN YE A	14	GOLOVEY V M	29	GUREVICH S B	61, 62, 97
FOTIADI A A	59	GOL'TSMAN N P	48	GURSKIY I M	57
FOYGEL' M M	71	GOLUB M A	61	GUR'YANOV A N	47, 48
FRANKE R	90	GOLUB V V	15	GUSAKOV G M	92
FRANTSesson A V	4	GOLUBENTSEVA L I	78	GUSEV S A	22
FRIDENTAL YA K	5, 6	GOLUBEV A A	93	GUSEVA O A	77
FROLOV A V	60	GOLUBEV P N	48	GUSHCHENSKOV A V	49
FROMZEL' V A	19, 24, 40	GOLUBEV V S	90, 97	GUSOVSKIY D D	48
		GOLUBEV YE V	48	GUTIN M A	13
GADETSKIY S N	75	GOLUBEVA N G	81	GVOZDEV A A	79
GADOMSKAYA I V	60	GOLUBOVSKIY YU M	71	GYUL'NAZAROV E S	64
GADOMSKIY O N	60	GOMONOV S V	75	GYUNSBURG K YE	78
GADONAS R	78, 80	GOMYRANOVA G I	23		
GADONAS R A	25	GONCHARENKO V I	98	HELSTYNSKI J	71
GALAKTIONOV I I	65	GONCHAROV A F	77	HENING A	73
GALANOV A N	61	GONCHAROV S F	94	HERDEN A	62
GALICH N YE	36	GONCHAROVA L N	83	HERRMANN J	97
GALKIN A F	15	GONCHUKOV S A	22	HERRMANN K	5
GALKIN A L	21, 42	GORBACHEV D B	72	HNATOWICZ V	92
GALSTYAN T V	58	GORBACHEV S M	87	HOFF F	49
GALUS W	23	GORBACHEV YU YE	10	HORAK R	33
GALUSIKIN M G	34, 58	GORBUNOV A A	87	HRADIL Z	33
GAN M A	58	GORBUNOV A V	87	HUELLER S	36
GANCHERENOK I I	27	GORBUNOV L M	29		

IBRAGIMOV R A	70	KALINTSEV A G	33	KHOLODNOV S YE	46
IBRAGIMOV V YU	61	KALITIN S P	1,2,39	KHOLOV A	36
IGNATAVICHYUS M	32	KALMYKOV I V	49	KHOLZHAYEV A D	33
IGNATOV A B	25	KALYAGIN YE A	44	KHOMENKO S I	25
IGOSHIN V I	18	KALYAGO S S	1	KHOMYAK A S	79
IGRITSKIY V I	88	KAMALOV SH R	33	KHOPIN V F	48
IKHENOV D A	80	KAMALOV V F	82	KHOROSHILOVA N I	45
IL'CHISHIN I P	9	KAMARDIN I L	70	KHORUZHNIKOV S E	51
IL'ICHEV N N	8	KAMENEV YU YE	15	KHREBTOV A I	24
IL'IN V N	71	KAMINSKIY A A	4,82	KHRYASTOV N A	93
IL'INA S G	53	KAMINSKIY A S	81	KHUDAYBERGANOV S T	24
IL'INSKIY YU A	29,96	KAMYSHAN V V	67	KHUDIK V N	62
ILIYEV S N	81	KANCHEVA L	76	KHUDOSHIN A V	67
ILIYEVA M G	58	KANETS'YAN E G	26	KHULUGUROV V M	2
INOCHKIN M V	26	KAPAYEV V V	92	KHVOSTIKOV V P	5
INOZEMTSEV V P	47	KAPOCHYUTE R	80	KHVOSTOVA N O	87
INSHAKOV D F	2	KAPRANOV R I	48	KIEBURG H W	19
IODISHYUS I	34	KARASEV M YE	58	KIKAS YA	66
IONKUS S I	92	KARASIK A YA	40	KIKAS YA V	64
IONUSHAUSKAS G	3,34	KARELIN A V	15	KIKINESHI A A	96
IOTOV I N	12	KARLOV N V	97	KIM V	58
IOVOV D F	47	KARLOVA YE K	12	KIMMITT M F	13
IOZAPAVICHYUS A	34	KARNAUKHOV A A	93	KIMTIS L L	78
IPPOLITOV I I	57,84	KARNAUKHOV V N	58	KIRAKOSYANTS V YE	58
IRCZUK M	13	KARPOV S YU	91	KIRICHENKO N N	95
ISHANIN G G	24	KARFUSHKO F V	2,73	KIRILLOV G A	18,33
ISHCHENKO A A	24,40	KARTAZAYEVA S A	8	KIRILLOVA N V	61
ISHCHENKO V N	45,46	KASHIN V V	48,88	KIRPACH A B	20
ISHKHANYAN S P	27,52	KASHKAROV P K	92	KIRYUSHIN S I	96
ISMAILOV I	7	KAS'YANOV YU S	95	KISELEV A V	49
IVANCHENKOV V P	61	KATRICH A B	67	KISELEV G A	45
IVANITSKIY V P	49	KATS M L	78	KISELEV O M	13
IVANOV A P	44	KAZAK N S	33	KISELEV V P	29
IVANOV A V	21,32,54	KAZAKEVICH A V	49,63,64	KISELEV V S	77
IVANOV A YU	9,91	KAZANSKIY A K	82	KISELEV YU F	75
IVANOV B I	71	KAZANSKIY N L	61	KISELEVA T I	1
IVANOV I G	82	KAZANTSEV A P	75	KISELEVA YE S	29
IVANOV N A	2	KAZARYAN R K	91	KISELEVSKIY L I	95
IVANOV O R	44	KAZHUKAUSKAS V V	76	KISTENEV YU V	29
IVANOV O V	25	KAZLAUSKAS A	82	KITAYEV N P	29
IVANOV V B	34	KESSLER G	89	KIZHAYEV K YU	7
IVANOV V D	70	KHABIBULLAYEV B K	93,94	KLASSEN I F	82
IVANOV V V	35,88	KHABIBULLAYEV P K	39,47	KLEMENTOV A D	17
IVANOVA T YU	7		89,96	KLEFIKOVA N L	49
IVANOVA YE V	45	KHADZHI P I	29	KLEVTSOV P V	36
IVASHKEVICH L S	82	KHAFIZOV S KH	36	KLIMENKO I S	71
IVLEV G D	88,92	KHAITBAYEV K	93	KLIMENT'YEV S I	59
IVLEV YE I	67	KHALILEV V D	83	KLIMKIN V F	71
IZMAYLOV A CH	12	KHALILOVA E I	30	KLIMKIN V M	57,84
IZMAYLOV B A	80	KHALIN F YA	69	KLIMOV V D	81,82
IZMAYLOV I A	16	KHALLER K	66	KLIMOV V N	57
IZMAYLOVA G M	88	KHAMIDULIN G M	13	KLIMOVSKIY I I	15
		KHAN V A	55	KLOCHKOV V P	83,84
JELINKOVA H	92	KHANDOKHIN P A	42	KLOSE E	79
JOHANSEN E	66	KHANIN YA I	42	KLUSHIN V N	34
JUHASZ T	25	KHARCHEV A V	5	KLYACHKIN L YE	61
		KHARKHALIS N R	84	KLYUKANOV A A	5
KAARLI R	64	KHAYBULLIN I B	92	KNEUBUEHL F K	42
KAARLI R K	64	KHAYDAROV A V	71	KNYAZ'KOV A V	25,53
KABANOV V V	58	KHAYKIN N SH	68	KOCH R	94
KABELKA V	1,3,28,56	KHAYRULLINA A YA	44	KOCHELAP V A	16,29
KABELKA V I	33,41,97	KHILO N A	33	KOCHEMASOV G G	18,33
KADANER G I	8	KHIMINETS V V	96	KOCHETKOV A G	63
KADZHAR CH O	76	KHINRIKUS KH V	50	KOCHETOV I V	10
KAFEDZHIEV S	88	KHIZHNYAK A I	8,31,40,58	KODYAKOV V M	71
KAGAN M B	74		59,60,64	KOEFKE C Z	30
KAGANOVICH E B	82,86	KHIZHNYAKOV V	29	KOGAN G A	63
KALACHEV YU L	74	KHMELEVSKIY A M	80	KOKHANOV V I	56
KALAFUSHA A L	25	KHMELEVSKIY A N	15	KOKIN V N	77
KALININ YU M	23	KHMEL'NITSKIY G S	57	KOKORA A N	90
KALINOV V S	3	KHOANG TKHI KIM KHUE	81	KOKOV I T	38
KALINOVSKIY V S	74	KHOCHADIN N V	25	KOL'CHENKO A P	13
KALINOVSKIY V V	18	KHOLBAYEV A	94	KOLDASHOV G A	95

KOLEROV A N	1	KOVACH D SH	85	KUDRYAVKIN YE V	19
KOLESNIKOV A G	71	KOVACS L	88	KUDRYAVTSEV A B	86
KOLESNIKOV A P	59	KOVAL' A V	10,14	KUDRYAVTSEV I K	27
KOLESNIKOV I V	87	KOVAL' YU I	87	KUGAYENKO O M	88
KOLESNIKOV YU A	10	KOVAL'CHUK V K	49	KUKHARCHIK P D	63
KOLESNIKOV YU G	69	KOVALENKOV O V	75	KUKIELLO P	13
KOLESNIKOVA T A	65	KOVALEV A A	71	KUKSENKOV D V	7
KOLEZHUK K V	75	KOVALEV A YA	79	KUKUSHKIN A G	36
KOLINKO N B	67	KOVALEV I O	12	KULAGIN O V	35
KOLOMIYETS N F	94	KOVALEV V I	59	KULAGINA M M	7
KOLOTLIN B I	86	KOVALEVSKIY M M	32	KULAIKOV YU V	67
KOLPAKOV V I	57	KOVARSKIY V A	75	KULAK I I	17
KOLPAKOV YU N	65	KOVSH I B	13,22	KULAKOVSKIY V D	78
KOLPASHCHIKOV V L	70	KOVTONYUK N F	61,96	KUL'BEDA V YE	57
KOLTUNOVA YE V	66	KOVTUN A V	94	KULESHOV S A	70
KOL'YAKOV S F	56	KOZEL S M	47	KULESHOV YE M	15
KOLYSHKIN V I	7	KOZHEVNIKOV A V	35	KULEVSKIY L A	58
KOMAROV O V	17	KOZHEVNIKOV N M	63	KULIKOV S G	80
KOMOV YE A	72	KOZHEVNIKOVA I N	9,35	KULIKOV S M	18
KONDRASHEV S A	93	KOZHORIDZE G D	26	KULIKOV S V	16
KONDRAT'YEV YU N	48	KOZLOV A I	38	KULIKOVA N I	71
KONDRATYUK N V	33	KOZLOV N A	80	KULIKOVA O V	82
KONEFAL J	13	KOZLOV P V	87	KULISH N R	30
KONIN V N	8	KOZLOV V A	24	KULYUK L L	82
KON'KOV A A	67	KOZLOVA N S	88	KUMESKIY V R	79
KONNIKOV S G	5	KOZYRO P	13	KUNCHEV R K	59
KONONENKO YU P	24	KRAPOSHIN V S	69	KUNDELEVA N YE	84
KONONOV V A	3	KRASAUSKAS V	76,78,80	KUNIGELIS A	32
KONOPEL'KO G K	71	KRASAUSKAS V V	25	KUOKSHTIS E	83
KONOV V I	74,87,89,90	KRASAVINA YE M	7	KUOKSHTIS E P	83
KONOVALOVA S A	25	KRASHENINNIKOV V N	68	KUPRENYUK V I	59
KONSTANTINOV B A	80	KRASILOV YU I	2	KURBANOV A M	39
KONTAR' A A	50	KRASIN YE V	23	KURBANOV K	4
KONYAYEV P A	36	KRASIVSKIY I N	71	KURBATOVA YU N	75
KONYUKHOV V K	11,14,97	KRASNENKO N P	55	KURILO I V	92
KONYUSHKIN V A	2	KRASNIKOV V V	87	KUROCHKIN V YU	10
KOPAYEV YU V	92	KRASNOGEROV L N	80	KURSHYALIS S	6
KOPETSKIY CH V	69	KRASNOPEVTSEV V N	55	KURUNOV R F	70
KOPILEVICH YU I	53	KRASNOV I V	75	KUSHNIR Z O	92
KOP'TEV V G	25,33	KRASNYUK I K	95	KUSHNIRENKO I YA	79
KOPVILLEM U KH	45,98	KRAVCHENKO V A	98	KUTELEV A F	54
KOPYTIN YU D	55,56,57	KRAVCHENKO V I	19,38	KUTI C S	25
KORBU'YAK D V	96	KRAVCHENKO V O	44	KUTLIN A P	53
KORESHEVA YE R	93	KRAVTSOV S B	3	KUZAKOV S M	98
KORNEYEV S S	62	KREKHIVSKIY O V	30	KUZICHEV V I	96
KORNEYEV V I	37,47	KREMENCHUGSKIY V L	67	KUZIN YE A	59,62
KORNEYEV V V	57	KREPELKA J	33	KUZ'MENKO V G	44
KORNEYEVA B M	37	KREYMERMAN G YE	38	KUZ'MICHEV A I	22
KORNIYENKO L S	47	KRICHEVTSOV B B	72	KUZMICHEV A V	74,87
KORNIYENKO N YE	17,36	KRINDACH D P	52	KUZ'MICHEV V M	67
KOROHKIN V V	18,42,53,95	KRIVKO T V	71	KUZ'MIN A N	5
KOROBOV A M	9	KRIVOSHLYKOV A YU	72	KUZ'MIN G P	12
KOROLEV V N	5	KROMSKIY D G	79	KUZ'MIN V A	66
KOROL'KOV V A	57	KROMSKIY G I	25	KUZ'MIN V S	83
KOROTEYEV N I	28,82	KRUGLIK G S	33,42	KUZNETSOV N T	2
KOROTKOV N P	74	KRUGLOV V I	53	KUZOVNIKOV A A	14
KOROTKOV P A	81	KRUSELL' U U	24	KUZYAYEV P N	89
KORSAKOVA YE G	83	KRYLKOVA I V	12	KVACH V V	78
KORUNNYI V N	4	KRYLOV V N	8	KVITEK J	92
KORYAVIN A A	83	KRYUKOV P G	18	KVITENKO YU N	48
KORYUKIN I V	42	KRYUKOV V G	90		
KORZHOV YE I	62	KRYUKOVA I V	7,92	IACZKO G	83
KOSENKO YE K	28	KRYZHANOVSKIY S P	45,46	LAGUTIYA V L	45
KOSILKO Z A	45	KRZHIZHANOVSKIY R YE	90	LAKOVA I S	86
KOSTIKOV K A	53	KUBA A P	20	LAMEKIN P I	22
KOSTIN N N	7,92	KUBALDIN E V	8	LAMEKIN V F	47,63,64
KOSTYLEV A A	57	KUBERTAVICHYUS V	30	LAMTYUGINA N P	49
KOSYAK YE G	33	KUBLIK A V	50	LAPTEV I D	65
KOTLYARCHUK B K	92	KUCHERENKO YE T	12	LAPTEV V B	66
KOTOMTSEVA L A	42	KUCHINSKIY A A	70	LARIKOV A V	8
KOTOV A A	10	KUCHINSKIY V I	7	LARIONOV V R	5,23,39,74
KOTSARENKO N YA	25	KUCHMA I G	24,40	LARIONOV V V	53

LARYUSHIN A I	92	LUK'YANOV V I	24	MARNACHEVA L A	65
LASKOVNEV A P	90	LUNIN B S	66	MAROTI P	83
LATINIS V	83	LUNTER S G	7,39	MARTIROSOV V A	20
LATUSH YE L	15	LUPEI V I	43	MARTYNNENKO O G	36,70
LATYSHEV S V	95	LUFKOVICS G	8	MARTYNOVICH YE F	3,25,85
LAVRISHCHEV S V	89	LUSHNIKOV A A	30	MARUGIN A V	5
LAVROV L M	18	LUSKIN B M	22	MARUSHCHAK V A	77
LAVRUSHIN B M	6	LUTSENKO A P	93	MASALOV A V	28
LAYSAAR A I	98	LYAGUSHIN S F	27	MASHEV L	53
LAZAREVA T V	8	LYAKHNOVICH A V	73	MASHEVSKIY A G	75
LEBEDEV F V	42,97	LYAKHOV G A	9	MASHINSKIY V M	48
LEBEDEV O I	45	LYAMSHEV L M	38	MASHTAKOV D M	45
LEBEDEV V V	34	LYAPAKHIN A B	72	MASLAKOV A I	87
LEBEDEV YE A	20	LYAPUNOV G M	24	MASLOV V G	24,40
LEBEDEVA G I	23	LYASHENKO V I	14	MASLOVA M G	45,98
LEBO I G	93	LYK VU VAN	7	MASYCHEV V I	38
LEITNER A	78	LYUK P A	5,6	MATEVOSYAN L A	91
LEONOV S B	67	LYUTSKO V A	82	MATIZEN YU E	68
LEONOV YE I	79			MATVEYEV A N	26,60
LEONT'YEV V G	12	MACIAK A	23	MATVEYEVA A V	30
LEFSKI D	90	MAK A A	4,34,40	MAVRIN B N	77
LESHCHEVA I YE	81	MAKARENKO A YU	47	MAYOROV S A	94
LESHENYUK N S	12	MAKARENKO S P	28	MAZHUKIN V I	54
LESHKO O M	54	MAKAREVICH S A	44	MAZMANISHVILI A S	68
LETLIN YU L	54	MAKAREVICH V S	50	MAZUR A V	4
LETOKHOV V S	75,83	MAKAROV A I	91	MAZUR A YE	20
LEVASHENKO G I	13	MAKAROV V A	30	MAZUR M M	36
LEVIN F P	66	MAKAROV V I	88	MAZURENKO S L	95
LEVONYAN S V	41	MAKAROV V N	25	MEKHTIYEV A SH	84
LEVSHIN L V	83	MAKHSUDOV B I	7	MELEDIN V G	69
LEYKO S T	56	MAKKAVEYEV V I	49	MELEKHIN I V	89
LIBERMAN A A	68	MAKOGONENKO A G	84	MEL'GUY M A	50
LICHKOVA N V	69	MAKSHANTSEV B I	88	MELIK-GAYKAZYAN I YA	67
LIKHANSKIY V V	29,42	MAKSIMENKO V V	30	MELIK-GAYKAZYAN V I	67
LINNIK L F	75	MAKSIMOV A V	35	MEL'NICHENKO I A	64
LIPATOV N I	28	MAKSIMOV G A	20	MEL'NIKOV B G	63
LIPOVSKAYA M YU	63	MALDUTIS E K	91,92	MEL'NIKOV I V	74
LIPITSCH M E	78	MALEVICH V L	92	MEL'NIKOV O K	77
LISITSA M P	39,63,78,83	MALININ B G	19	MEL'NIKOV V M	87
LISITSA YU V	51	MALINOVSKIY A L	24	MEL'NIKOV V YA	44
LISITSYNA YE A	83	MALINOVSKIY V K	27	MEL'NIKOVA O N	25
LISOVENKO V A	84	MALKIN A I	87	MENAKHIN L P	57
LISOVOY B V	84	MALOV A N	71	MEN'SHAROV V S	52
LISTRATOV V I	93	MALUSHIN N V	84	MERESHKYAVICHYUS A	30
LISTVIN V N	47	MALYAVINA T B	94	MERKISHIN G V	54
LITNEVSKIY L A	55	MALYAVKIN L P	56	MERKULOV V A	56
LITOVCHENKO V G	96	MALYUKIN YU V	26	MERKUL'YEV YU A	93
LITVINOVA G G	45	MALYUTIN A A	8	MESH M YA	38
LOBACHEV V A	4	MAMEDBEYLI I A	76	MESHALKIN YE A	93
LOBANOV M N	25,53	MAMEDOV G M	30	MESHCHERYAKOV N A	64
LOBROV V S	30	MAMEDOVA N A	66	METEVA S	42
LOGGINOV A S	6	MAMYSHEV P V	40,48	MEYGAS K B	50
LOGINOV V A	58	MANENKOV A A	26	MIHAILESCU I N	73,90
LOGVINENKO V P	16	MANICHEV I A	40	MIHALACHE D	30
LOMAKO I D	73	MANITA O F	75	MIKAYELIAN G T	6
LOSEF S A	87	MAN'KO M A	7	MIKHALEV V S	20
LOSEV L L	93	MANTHE K H	49	MIKHAYLESKU I N	74
LOSHKAREV V V	86	MANUKHIN A V	88	MIKHAYLIN V V	100
LOTKOVA E N	67	MANYKIN E A	65,88,91	MIKHAYLOV A	27
LOYKO N A	42	MARAKHONOV V I	63	MIKHAYLOV A L	73
LOZIKIN T YU	89	MARCHENKO V G	18	MIKHAYLOV I A	64
LUGINA A S	33	MARCHEVSKIY F N	48	MIKHAYLOV V A	2
LUKASHENKO S V	20,94	MARCHUK V S	49	MIKHAYLOV V I	16
LUKASHEV A V	58	MARENNIKOV S I	44	MIKHAYLOV V P	40
LUKASHEVICH P G	4	MARGOLIN L YA	53	MIKHAYLOV YU T	84
LUKIN I V	72	MARINOVA K P	81	MIKHEYEV YU S	54
LUKIN V P	36	MARKHVIDA I V	72	MIKHKEL'SOO V T	17
LUKOSHKIN A V	45	MARKOV B N	81,84	MIKHNOV S A	3
LUKOSHYUS I P	91	MARKOV V B	98	MIKHNOVETS V YA	66
LUKSHA O V	49	MARKOV V I	20	MIKIENKO W	13
LUK'YANCHUK	89	MARKUSHEV V M	4	MIKITCHUK YU D	8
LUK'YANETS YE A	77	MARMUR I YA	76	MIKLAVSKAYA YE M	33

MIKULIN YE I	13	NALIVAYKO S YE	17	ODZHAYEV V	92
MIL'CHIN M A	44	NANU L	90	ODZHAYEV V B	92
MILLER A M	70,88	NAPARTOVICH A P	10,42	OGANESYAN M K	40
MILYAUSKAS A	3,28	NARUTA V YE	9	OGANESYAN S G	76
MINASYAN V N	25	NASYROV I N	39	OGANESYAN YU TS	81
MINENKOVA N A	69	NAUMANN M	94	OKHRIMCHUK A G	1
MIROGORODSKIY A P	85	NAUMCHIK V D	51	OKIC M	73
MIRONOS A V	49,63,64	NAUMENKO I G	9	OKSMAN YA A	76
MIROV S B	2,3	NAUMENKOV P A	79	OKULOV A YU	31,36
MIRZA S YU	8,15	NAUMOV N V	11	OLTEANU M	45
MIRZABEKYAN G E	91	NAZARKIN A V	74	OMEL'CHENKO A I	89
MIRZAYEV A T	47	NAZAROV V M	25	OMEL'YANOVSKIY E M	78
MISAKOV P YA	79	NAZAZROVA N B	65	ONISHCHUKOV G I	40
MISHCHENKO V A	35	NAZVANOV V F	74	ONOKHOV A P	24,25
MISHCHENKO YE D	20	NEBOLA I I	84	ONOSHO R N	58
MISHINA YE D	77	NEBOL'SIN M F	56	OFARIN A N	62
MISOCHKO O V	78	NEDEL'KO S G	79	ORAYEVSKIY A N	11,31,36,42
MITCHENKOV V M	84	NEDOLUGOV V I	9		58,64,98
MIT'KIN V M	7	NEFEDOV V I	90	ORAYEVSKIY I A	15
MITROPOL'SKIY M M	22	NEKRASOV L P	20	ORLIKOVSKIY A A	74,87
MITSKEVICH N V	47	NEMCHINOV I V	94	ORLOV A N	98
MKOYAN A S	29	NEMET B	14	ORLOV L N	67
MNUSKIN V YE	79	NEMKOVA YE A	58	ORLOV M M	70
MOCHALOV I V	1,27,39	NESTERENKO A A	12	ORLOV O A	4
MOGIL'NITSKIY S B	53	NESTERENKO V M	67	ORLOV S V	22
MOISEYEV S A	30	NESTERKIN O P	93	ORLOV S YU	19,71
MOKINA I A	7	NEUGART R	84	ORLOV V M	55
MOKROV V B	42	NEUSTRUYEV V B	48	ORLOV YE F	34
MORICHEV I YE	24,25	NICKLES P V	94	ORLOVICH V A	16,78
MOROZOV A N	51	NIKANOVICH M V	82	ORZECHEVSKI J	73
MOROZOV N V	17	NIKIFOROV V G	80	OSADCHIY V M	70
MOROZOV V A	30	NIKISHIN S A	7	OSIKO V V	3,8,39,86
MOROZOV V B	28	NIKITENKO A I	93	OSIPOV A A	50
MOROZOV V N	6	NIKITIN A K	72	OSIPOV A P	81,82
MOROZOVA YE A	25	NIKITIN A O	95	OSIFOV I YE	93
MORSHNEV S K	4	NIKITIN A V	23	OSIFOV V V	13
MOSKALENKO S A	27	NIKITIN A V	39	OSIP'YAN YU A	78
MOTSNIY F V	83	NIKITIN V V	61	OSTROUMOV V G	1,2
MOTYLEV S L	95	NIKITIN V YU	58	OSTROVSKAYA N V	26
MOVSEYAN L R	25	NIKOLAYEV M V	56	OSTROVSKIY L N	12
MRUZ V	93	NIKOLAYEV S V	9	OSTROVSKIY YU I	70
MUELLER K	49	NIKOLAYEV V D	18	OSVENSKIY V V	76
MUELLER R	66	NIKOLAYEV V I	93,95	OSYKHOVSKIY A L	46
MUKHAMETZYANOV I A	59	NIKOLAYEV V N	57	OVCHINNIKOV A A	58
MUKHARLYAMOV R G	59	NIKOLOV I D	59	OVCHINNIKOV A V	7
MULSER P	36,95	NIKONENKO G N	98	OVCHINNIKOV S P	86
MUMLADZE A N	21	NISTOR L C	90	OVECHKO V S	39
MUNTEANU M	9	NITSOVICH B M	30	OVID V I	72
MURADYAN L KH	41	NIVIN A B	7	OVSYANNIKOV V A	46
MURAVITSKIY S G	4	NIYLISS A I	6	OZRIN V D	52
MURAVTSOV A D	21	NIZKOVA A I	78		
MURAV'YEV I I	11	NOGINOV M A	1,2	PAK A N	46
MURINA T M	1,4	NOVAKOVSKIY S V	50	PAK G T	6
MURUGOV V M	18	NOVIKOV A D	34	PAK S K	2
MURZIN A G	24,40	NOVIKOV A V	74	PAK V G	2
MUSIKHINA S F	69	NOVIKOV M A	68	PAKHOMOV A A	61
MYAKOV V N	47	NOVIKOV S B	58	PAL' A F	10
MYL'NIKOV G D	35	NOVIKOV V D	42	PALTARAK N M	2
MYL'NIKOV V S	71	NOVIKOV V N	27	PAL'TSEV L L	36
MYTSYK B G	73	NOVIKOV YU B	76	PANCHISHIN I M	81
MYUNEV G V	93	NOVOKHATSKIY V V	44	PAN'KIV P M	54
		NOVOZHILOV V A	7	PAN'KO V V	85
NAATS I E	56	NULLER T A	74	PANKRATEV V V	57
NABIYEV R F	6,31			PANOV V I	26,69
NABIYEV SH SH	81,82	OBICHKIN A N	16	PAPASHVILI A G	2
NADENENKO A V	33	OBUKHOVA G G	46	PAPAZYAN T A	27,40,52
NADOLUGOV V I	72	OCHIN YE F	62	PAPERNIY S B	34
NAGLI L YE	84	OCHKIN V N	11	PARAMONOV G K	65
NAGORNIY D YU	15	ODINAK YA M	54	PARYEV P A	22
NAKHODKIN N G	98	ODINAKOV S B	62	PARFENOV V A	8
NALBAHDYAN A B	97	ODINTSEV I N	72	PARFIANOVICH I A	2,98
NALET T A	7	ODULOV S G	34,59,64	PARKHOMENKO YU N	19,38

PASCU A	9,45	PLEKhanov V G	85	PRUTSKIKH T A	39
PASCU M L	9,45	PLESHAKOV E I	90	FRYALKIN V I	33
PASECHNYY V A	58	PLESSKIY V P	38	PSHENICHNIKOV M S	87
PASHIN A YE	37	PLETNEVA N I	25	PSHEZHETSKIY S YA	66
PASHININ P P	8,21,77,95	PLOTNIKOV O L	46	PUCHENKOV O V	37
PASKAL' I YU	42	PLYASULYA V M	34	PUCHKOVSKAYA G A	28
PASMANIK G A	35	PODDUBNYY V V	72	PUKHOV A M	65
FASTERNAK A F	85	PODENAS D	51	FUKHOV K K	82
PASTUROV A YA	63	PODGAYETSKIY V M	65	PUL'KIN S A	15
PAVLENKO V K	33	PODLAVSKIN B G	61	PUSHKAREV G P	72
PAVLENKO V S	17	PODMAR'KOV YU P	17	PUSTOVALOV V V	41
PAVLOV V A	87	PODOBEDOV V B	77	PUSTOVOYT V I	36
PAVLOV V V	72	POGODAYEV V A	55,56	PYALAKAUSKAS A	76
PAVLOVSKIY V N	4	POGORELOV V YE	82	P'YANKOV B L	72
PAZDRIY I P	90	FOGOSOV G A	68	PYATAKHIN M V	21,22,36
PEET V E	17	POGRBITSKIY K YU	5	PYATNITSKIY L N	53,57
PELIFENKO V P	9	POKLONTSEV B A	73	PYNDYK A M	68
PELIYEVA L A	79	POKORA L	43		
PENNER I E	54	POKROVSKIY V P	19,71	RABCZUK G	13
PEREL'MAN N F	75	FOLGAR K	88	RABINOVICH E M	6
PEREZHOGIN V B	95	FOLIKUTIN A V	45	RABKIN L M	86
PERINA J	33	FOLIVANOV YU N	28	RACHYUKAYTIS G	82
PERMINOV S M	48,88	POLKOVNIKOV B F	42	RACZ B	14
FERMINOVA V N	48,88	POLONSKIY L YA	53	RADAUTSAN S I	82
PERVAK YU A	22	POLOVTSEV I G	21	RADAYEV V N	85
PERVEYEV A F	58	POLUBOTKO A M	31	RADIONOV A R	20
FESHKO I I	8,40,64	POLUSHKIN I N	68	RAKAUSKAS R I I	66
PESTOV E G	31	POLYAKOV M YE	6	RAL'CHENKO V G	89
PESTOV N L	90	FOMFE W	89,90	RAL'CHENKO V I	9
PETRAKOVA T V	6	PONOMAREV A N	39	RAFOFORT B I	61
PETRIKOV V D	79	PONOMAREV D I	67	RAFOFORT YE S	68
PETROSYAN A G	4	PONOMAREV N N	28	RASHEV S	76
PETROV D V	38	PONOMAREVA L A	85	RASSADIN L A	74
PETROV G I	77	POFESCU I M	31	RASSVETALOV L A	32
PETROV M P	59,62	POPESKU M	74	RASTOPOV S F	77
PETROV YU N	98	POPOV A I	13	RASULOV K YA	74
PETROVA L I	25	POFOV E	53	RATKEVICH V K	70
PETROVA N N	49	POFOV G M	98	RATSEYEV S A	82
PETROVSKIY G T	7,27,39,48	POPOV YU M	6,31	RAUTIAN S G	34
PETROVSKIY V N	10,11	POFOV YU P	98	RAYEVSKIY I F	20
PETRU F	12	PORODNIKOV O YE	17	RAYZER YU P	99
PETRUKHIN N S	36	PORNOY YE L	7,77	REBANE A K	64
PETRUN'KIN V YU	50	PORNYAGIN V V	18	REINECKE W	68
PETRUSHKO I V	62	POSTELOV V S	45	REITZENSLIN W	90
PETSKUS A M	92	POTAPOV V N	13	RELIN V F	62
PETUKHOV A G	9	POTATURKIN O I	62	RENCH S	81
PETUKHOV A P	90	POVROZIN A I	72	RENTSCH S K	85
PEVNY S N	18	POYZNER B N	42	RESHETNYAK V YU	31,85
PICHUGIN S YU	18	PREOBRAZHENSKIY N G	31	REZNICHENKO A V	77
PICHUGIN V V	10	PRIGARA I V	49	REZNIKOV YU A	31
PIKALOV V V	71	PRILEZHAYEV D S	40	RICHTER A	89
PIKULIK L G	54	PRILEZHAYEV D S	8,24	RIEGER M	78
FILIPENKO V A	72	PRIMBETOV K K	78	RIMEYKA R	37
FILIPOVICH V A	49,88	FRISHCHEFOV V P	71	RIMKYAVICHYUS R	56
FIMENOV S M	90	FRISHIVALKO A P	56	RIMKYAVICHYUS R E	33
FIMENOV V G	48	FRIVALOV V YE	12,23,79	RISTIC S	73
FINKEVICH I P	31,85	PRIVIS YU S	3	RISTO V A	72
FINSKER T N	78	PRİYUTOV M V	79,85	RITYN' YE N	13
PIOTROWSKI J	23	PROKHORENKO V YA	90	RODICHKIN V A	70
FISAREV R V	72	PROKHOROV A M	2,4,14,26	RODIONOVA L M	78
FISKAREV V V	24		29,39,40,48	ROGACHEV A V	93
FISKARSKAS A	28,40,41		49,74,77	ROGOV V S	74
	80,85		90,95,98	ROMANENKO V F	78
FISKARSKAS A S	25	PROKLOV V V	38	ROMANENKO YE S	33
FISKULSKI M	13	PROKOF'YEVA T P	24	ROMANIUK R	50
FISKUNOV V N	52	PROKOPALO O I	20	ROMANOV A B	29
PIS'MENNY V A	1	PROKOPENKO V T	66	ROMANOV I M	88
FIVINSKIY YE G	8,24,40	PROSKURYAKOVA S F	72	ROMANOVSKIY A B	17
FLAKHOTNIK T V	68	PROTSENKO I YE	11,42	ROMANOVSKIY M YU	95
FLAKSIN O A	88	PROTSENKO YE D	10,11	ROMANYUK N A	73
FLATONENKO V T	41	PRUDKOGLYAD A F	75	ROTOMSKIS R	80
FLATOV A V	59	PRUIDZE D V	63	ROUSAR I	73

ROZANOV V B	93	SARAPUU R	64	SHCHAGINA N M	86
ROZENSUTEYN V B	97	SARGSYAN N A	76	SHCHAVELIN V M	89
ROZENTAL' A I	6,68	SARKISOV S F	82	SHCHAYA-ZUBROV P G	71
ROZHDESTVENSKIY A YE	55	SAVCHENKO M A	41	SHCHEBUNYAYEV A G	47
ROZHDESTVIN V N	25	SAVCHENKO V V	38	SHCHEGLOV V A	27
ROZKWITALSKI Z	13	SAVEL'YEV B A	53	SHCHELEV M YA	67
RUBANOV A S	58	SAVEL'YEV D A	24	SHCHEPINA L I	3,65
RUBENCHIK A M	36	SAVEL'YEV I V	99	SHCHERBAK V I	73
RUBINOV V M	61	SAVIDOVA V M	64	SHCHERBAK YU M	38,49
RUBINOV YU A	13	SAVIN A I	96	SHCHERBAKOV A	5
RUBTSOVA I L	60	SAVITSKIY A V	62	SHCHERBAKOV A G	79
RUDENKO V S	47	SAVITSKIY G V	92	SHCHERBAKOV A I	68
RUDENKO YE N	26	SAVVA V A	65	SHCHERBAKOV A S	50
RUDNEV S N	86	SAVVINA L P	8	SHCHERBAKOV I A	1,2,3,39
RUDNIK K I	54	SAYDOV G V	54	SHCHERBAKOV V N	51
RUDSKOY I V	95	SAYECHNIKOV K A	40	SHCHERBAKOV YE A	49
RUKAVISHNIKOV N N	33	SAYECHNIKOV V A	87	SHCHERBAKOV YU A	14
RUKHIN V B	17	SAYKO A P	83	SHCHERRINA V I	50
RUMYANTSEV K YE	24	SCH EIBF H J	89	SHCHETINKIN V S	62
RUMYANTSEV V D	39,74	SCHNABL H	36	SHEL'FYAKOV V YU	13
RUPASOV V I	31	SCHNUERER M	94	SHEPINOV V P	72
RURUKIN A N	10	SECHKO A G	77	SHEREGIY YE M	54
RUSANOV S YA	48,88	SELEZNEV V N	62	SHERETOV E P	86
RUSTAMOV I R	1	SELISHCHEV A V	50	SHERMERGOR T D	52
RUSYATSKAS A K	33	SEMAK D G	96	SHERSTNEV K B	93
RYABOV A S	4	SEMENCHIK V G	63	SHERSTNEV V A	5
RYABOV YE A	24,66	SEME NOV A L	93,95	SHERSTOBITOV V YE	59
RYABTSEV G I	5	SEME NOV A YU	95	SH EGTAKOV A V	1,2
RYABUKHO V P	71	SEME NOV L P	56	SHEVCHENKO T B	56
RYADOV A V	18,33	SEME NOV N A	50	SHEVCHENKO V G	22
RYAKHIN A D	61	SEME NOVA I V	70	SHEVTSOV A S	8
RYBALTOVSKIY A O	47	SEMENYUK L N	84	SHEVYREV A S	15
RYBKA V	92	SEMERDZHIAN B O	23	SHIBALOV S N	63
RYCHEV M V	28	SEMIN V N	65	SHIBKOV V M	14
RYL'KOV V V	77	SENATOROV K YA	6	SHIDLOVSKIY V R	6
RYZHNIKOV V A	85	SENATOROV V N	20	SHIGORIN V D	3
RZHANOV A G	6	SENDER V R	33	SHIKANOV A S	93
		SENDOV YU M	31	SHIKANOV A YE	94
SAAR K	55	SENOKOSOV E A	5	SHIL'DIN V V	36
SAARI F M	64	SENYATSKIY YU V	35	SHILOV A A	35
SABITOV M S	93	SERDYUK I N	86	SHIMENAS G	76
SADOVENKO S N	44	SERDYUK V V	84	SHIPILOV K F	9
SAFONOV A N	81,89,90	SERDYUKOV V V	87	SHISHIGIN S A	56
SAFONOV M F	86	SEREDA O V	16	SHISHLOV V I	54
SAFONOV V P	34	SERGEYEV O T	78	SHKADAREVICH A P	2,25
SAGAYDAK V I	38,49	SERGEYEV P B	17		33,42
SAIDOV Z S	1	SEROV A V	41,94	SHKURINOV A P	82
SAKALAUSKAS S V	91	SEVERIKOV V N	11,100	SHKURKO V V	95
SAKERIN S M	99	SHABANOVA L A	36,38	SHLFKIS G	28,34
SAKHAMOVA V V	28	SHABLINSKAS V	77	SHMAL'GAUZEN V I	63
SAKOV I V	38	SHABLINSKAS V I	78	SHMATIN S G	24
SALASHCHENKO N N	22	SHAGIDULLIN R R	86	SHNIP A I	70
SALAYEV E YU	76	SHAKHNAZARYAN N V	27	SHOKHUDZHAYEV N	7
SALIVON G I	82	SHAKIROV I KH	86	SHORIN V N	36
SAL'KOVA YE N	64	SHALAGIN A M	75	SHORYGIN P P	30
SALOMAA R	19	SHALAYEV V M	28,34	SHOYTOV M A	23
SAMARTSEV V V	26,60	SHAMANAYEV V S	54	SHPAK A M	63,79
SAMOKHIN A A	54	SHAMAYEV O B	93,95	SHPAK M T	9,64,84
SAMOKHIN S P	85	SHANANIN R A	10	SHPILEVOY B A	20
SAMOKHVALOV I V	55	SHANGIN V A	68	SHPILYUN O V	35
SAMOYLUKOVICH V A	4	SHANGINA I I	68	SHTAVEMAN YE V	51
SAMSON A M	42	SHANSKIY V F	70	SHTENNIKOV S V	89
SAMSONOV A M	70	SHAPIRO D A	10	SHTOKMAN M I	28,34
SAMUSENKO A M	11	SHAPIRO I YA	70	SHTYRKOV YE I	30
SAMYLIN V A	33	SHAPOVALOV S A	57	SHUBIN O K	51
SANDUL G A	84	SHARANGOVICH S N	38	SHUGAN I V	56
SANINA O V	86	SHARIN P P	23	SHUMAY I L	77
SANNIKOV YU A	33	SHARKOV B YU	93	SHUMOVSKIY A S	27,75
SANNOV N A	92	SHARLE D L	50	SHUMLIN V V	19
SANTA I	14	SHAYDUK A M	55	SHURALEV S L	13
SANYGIN V P	90	SHAYDUROV V S	65	SHUVALOV L A	86
SAPRYKIN L G	25	SHAYNOGA I S	95	SIDENKO T S	17

SIDORIN V S	52	SOKOLOV I A	31,91	STUDENIKIN P A	3
SIEGRIST M R	19	SOKOLOV V A	19	STUDENYAK I P	85
SIFOROV V I	99	SOKOLOV V K	62,97	STUYT V A	63
SIKHARULIDZE D G	99	SOKOLOV V N	29	STYAPANKYAVICHYUS V	83
SILAYEVA N B	26	SOKURINSKAYA YE V	70	SUBASHIYEV V K	36
SILENKO V V	39	SOLDAK G V	29	SUCHKOV A F	21,36
SILIN V P	26,35,36	SOLDATKIN N P	23	SUHAIL A M	13
SIL'KIS E G	24	SOLOMATIN V S	87	SUKACH G A	82,86
SIMACHEV N D	49	SOLOPOV V M	47	SUKHANOV I I	68
SIMONOV A V	41	SOLOV'YEV N G	90	SUKHANOV V B	8,15
SIMONOV A YA	30	SOLOV'YEV V A	17	SUKHANOV V L	61
SINIKAS A G	71	SOLYAKOVA YE I	44	SUKHAREV S A	18,33
SINITSYN G V	73	SOMS L N	19,71	SUKHODOLA A A	79
SINITSYN M A	75	SOROKA A M	57	SUKHODOL'SKIY A T	57,77
SINITSYN M V	17	SOROKIN YE V	86	SUKHODREV N K	22
SINKYAVICHYUS G	3,40	SOROKIN YU M	54	SUKHOIVANOV I A	50
SIROTA N N	73	SOROKINA I T	2	SUKHORUKOV A P	60
SIRUTKAYTIS V	3	SOROKOUKOVA I P	78	SUKHOV A V	58
SISAKYAN I N	61	SOSKIN M S	31,59,64	SULAKSHIN A S	17
SIVAKOV A L	19	SOSNOV YE N	13	SULAKSHIN S S	14,17
SIVOKON' V P	60	SOT'SKIY B A	54	SULEYMANOV A M	31
SIVOVOLOV V A	80	SOUSTOV L V	70,88	SULTANOV SH D	94
SIYUCHENKO O G	1	SOYFER V A	61	SUMERIN V V	90
SIZOV V N	8	SPASSOVA E M	73	SUMETSKIY M YU	32
SKAKUN V S	14,15	SPESIVTSEV B I	87	GUMPF B	5
SKIBA F A	77	SPIKHAL'SKIY A A	22	SURGUTSKOV R P	22
SKLIZKOV G V	35,93	SPIRIDONOV V A	3	SUS'KOVA V I	46
SKLYADNEVA T K	56	SPIRIN V V	62	SUSLIKOV L M	84
SKOBEYEVA V M	84	STABINIS A	41	SUSLOV A I	86
SKOK M YU	86	STAFEEYEV V I	5	SUVOROV M B	59
SKREBKOV O V	16	STAKVILYAVICHYUS R	86	SUYNOV S KH	73
SKRIPACHEV I V	20	STALYUNAS K	28,34	SVECHNIKOV G S	99
SKRITKO G A	2,33,42	STANCALIE V	73	SVECHNIKOV S V	82,86
SLEMZIN V A	22	STANCLIK R	73	SVESHNIKOVA YE B	39
SLINKO V N	14,17	STANCO J	13	SVIDERSKIY I N	81
SLIVKA V YU	84	STANKUS N V	10	SVIRIDOV A P	65
SLIWINSKI G	13	STARIK A M	76	SVIRIDOV K N	61
SLOBODESKAYA P V	13	STARODUMOV A N	26,29	SVIRINA L F	11
SLOBODSKOY M V	26	STAROSTIN A N	10	SYCHUGOV V A	48
SLOBODYANYUK A I	81	STAROSTINA T M	47	SYRUS V	1,27,39,43
SLOMINSKIY YU L	40	STARSHIN M I	38	SYRYKH YU P	60
SLUZHAYEV I F	46	STARTSEV V R	34	SYSOYEV V K	48,88
SLYUSARENKO S S	64	STASEL'KO D I	8,63	SZABO G	14
SMELYY L N	9	STASHKEVICH A A	54	SZALAI GY	22
SMIL'GYAVICHYUS V	28,34	STASYUK N I	35	SZALAY L	83
	40,46	STASZEWSKI M	73	SZATMARI S	14
	7	STAYNOVA YE G	52		
SMIRNITEKIY V B	18	STEFANESCU E N	31	TAKLAYA A A	57
SMIRNOV A B	1,2	STEGER W E	93	TAMANOVIKH V V	13
SMIRNOV V A	75	STEL'MAKH M F	40	TAMOYKIN V V	36
SMIRNOV V B	70	STEL'MAKH N M	77	TAMULAYTIS G	87
SMIRNOV V G	49,63,64	STELTER T	13	TANIN L V	72
SMIRNOV V L	89,91	STEFANOV A A	27	TANKLEVSKAYA YE M	91
SMIRNOV V N	62	STEFANOV S I	31	TARANENKO V B	63
SMIRNOV V V	49	STEFANOV V A	88	TARANOV V V	38
SMIRNOVA A S	64	STEFANOV YE V	20	TARASENKO V F	14,15
SMIRNOVA T N	90	STERIAN P E	31	TARASENKO V M	89
SMUROV I YU	69	STERN R R	68	TARASOV G G	28,63
SMYDKE D	18	STOICA M	73	TARASOV I S	7
SMYSHLYAYEV S P	40	STOLOV YE G	22	TARASOV R P	50
SNGRYAN YE A	3,86	STOLOVITSKIY V M	61	TARNAY A A	49
SOBOL' A A	23	STOLTOVSKIY A A	24	TARNELASHVILI G T	21
SOBOL' V P	86	STOLYAROV YU V	62	TATUR V V	54
SOBOLEV P N	4	STORASTA YU I	76	TAVSHUNSKIY G A	48
SOBOLEV V B	14	STOYANOV A K	61	TEELEVAN V YE	82
SODNOMYN E	64	STREKALOV N N	92	TEKHVER I	29
SOGOKON' A B	14	STRELKOV G M	56	TEL'NOV D A	82
SOK DAN KHE	60	STREL'TSOV V N	37	TEL'NOV V A	13
SOKOLINOV G I	90	STRIZHEVSKIY V L	39,48,58	TEODORESCU V S	90
SOKOLOV A N	27	STROGANOV A A	39	TEREKHIN A V	86
SOKOLOV A P	56	STROGANOVA A YU	81	TERNOVSKIY I M	16
SOKOLOV A V	94	STRUGANOVA I A	83	TERZIYEVA S I	26
SOKOLOV B N					



TESTOV V G	15	TUNIK I M	33	VINOKUROV G N	19
TIKHOMIROV A A	54	TUNKIN V G	28	VINOKUROV V S	38
TIKHOMIROV A G	86	TUROK I I	29	VIRNIK YA Z	19,23
TIKHOMIROV I A	55	TUROVETS I M	65	VIRRO A L	5,6
TIKHOMIROVA N K	86	TURYANITSA I D	96	VISHCHAKAS YU	1,27,39,43
TIKHOMIROVA N M	46	TYATSKIN V A	46	VISHNYAUSKAS YU	76
TIKHONCHUK V T	26,36,60	TYMCHIK G S	72	VISKUN T G	36
TIKHONOV S V	24	TYUL'KIN I S	55	VITKUS R YU	60
TIKHONOV V I	14	TYUSHKEVICH B N	71	VITTOZHENTS V G	23
TIKHONOV V N	89			VITRISHCHAK I B	19
TIKHONOV YE A	9,39,64	UCHASTNOV V N	37	VITSHAS A F	57
TIMCHENKO A A	86	UMBRASAS A	34,40	VIZNYUK S A	57,77
TIMOFEYEV N T	39	UMYSKOV A F	1	VLADIMIROV F L	25
TIMOFEYEV R A	41	URBA V	77	VLASENKO A A	86
TIMOFEYEV V B	78	URBANKOVA H	13	VLASENKO S O	23
TIMOFEYEV V I	11	URBANOVICH V S	2	VLASOV A V	47
TIMOFEYEV V V	66	URBAS A	34	VLASOV R A	53,60,86
TIMONIN D A	48	URIN B M	22	VLASOVA G B	73
TIMONIN F V	48	URESU I	43,73,90,98	VODNEV A A	39
TIMOSHCHUKIN M I	3	USHAROV S N	3	VODOP'YANOV K L	58
TIMOSHIN V T	65	USHENKO A G	64	VOLCHUKOV V F	51
TISHCHENKO A A	72	USMOV A G	70	VOLEGOVA E G	9
TISHCHENKO A V	48	USMANOV T	24,33	VOIGUNOV D G	89
TISHINA YE N	41	USTINOV N D	61	VOLKONSKIY V B	25
TITARCHUK V A	16	USTYUGOV V I	4	VOIKOV V M	53
TITKOV A N	77	UTKIN I A	72	VOLKOV V P	77
TITOV V A	46	UTKIN-EDIN D P	78	VOIKOVA YE A	60
TITOV YE A	78	UVARIN V V	26	VOLOSOV V D	33
TKACHENKO L F	12			VOLOVSKI YE	93
TOKAREV A G	25	VAINOVSKAYA T N	4	VOLYAK T B	95
TOKER G R	58	VAGLIS A	76	VOROBEY R I	24
TOLEUTAYEV B N	82,83	VAKAREL'SKA K I	23	VOROB'YEV A N	51
TOLOKONNIKOV S M	93	VAKHIDOV F A	2	VOROB'YEV L YE	5
TOLSTIK A L	58	VALAKH M YA	63,78	VORONICH I N	33
TOLSTONOGOVA V I	44	VANNAY L	25	VORON'KO YU K	3,86
TOLSTOROZHEV G B	41	VARANAVICHYUS A	51	VORONTSOV M A	60,63
TOLSTOY M N	7	VARAVKA V N	89	VOROPAY YE S	87
TOMASHEVSKIY YU F	87	VAREN OV YU I	71	VOROSHILOV YU V	85
TOMCHUK P M	75	VARSERYAN R S	23	VOROTILIN S P	23
TOMILINA YE A	64	VASILE A	9	VOSKA R	79
TOMM J W	5	VASILENKO G I	63	VOSKRESENSKAYA I V	93
TRASHKEYEV S I	31	VASIL'TSEVA N I	72	VOVCHENKO V I	95
TRESHCHALOV A B	17	VASILYAK L M	93	VOYEVODIN V G	51
TREYVISH YU M	19	VASIL'YEV A A	32,100	VOYNOV V A	51
TRINCHUK V F	79	VASIL'YEV A G	74	VOYTOVICH A P	3,100
TROFIMENKO V V	4	VASIL'YEV A N	91,100	VOZNESENSKIY V A	21
TROFIMOV G S	31	VASIL'YEV N N	25	VU CHAN AN'	14
TROFIMOV V A	60	VASIL'YEV S I	26,69	VYSLOUKH V A	26,32,41,54
TROFIMOV V P	61	VASIL'YEV V N	51		
TROITSKIY B B	47	VASIL'YEV YU S	68	WEBER T	69
TROITSKIY S S	23	VASIL'YEVA L A	88	WEISS H J	89
TROITSKIY V O	15	VAULIN V A	14	WERDON R	13
TROITSKIY YU V	23,68	VAVILOV V S	5	WILHELMI B	41
TROSHCHAYEVA V N	42	VAYCHAYTIS V	32,33	WILHELMI B	97
TRUBENOK O S	20	VAYTEKUNAS F	6,76	WILLI	94
TRUBKO S V	23	VAYTKUS YU YU	76	WINDERLICH B	90
TSAREV A V	38	VDOVIN V A	54,66		
TSAREVA A L	46	VECHKANOV N N	47	YAGOLA G K	72
TSCHUDI T	62	VELETSKAS D	27	YAKOVIN D V	10
TSENTER M YA	79	VELIKANOV S D	17	YAKOVKIN I B	38
TSOTSORIYA M V	7	VELIKOTSKIY V L	79	YAKOVLENKO S I	10,14,15
TSOY T G	94	VELIKOV L V	87		16,94
TSVIRKO V A	40	VERLAN E M	34	YAKOVLEV K I	94
TSVYK R SH	70	VERLAN V I	74	YAKOVLEV M A	89
TSYMBAL L I	3	VERGHININ V I	86	YAKOVLEV V V	25,72
TSYS' O N	44	VESELA Z	12	YAKOVLEVA T V	35
TSYTSANU V I	82	VETKINA S N	4	YAKUBENAS R	56
TSYURA I V	90	VETROV K V	33	YAKUBENAS R A	33
TUCHIN V V	6	VINOGRADOV A R	90	YAKUSHEV G G	57
TUDOR T	14	VINOGRADOV AN V	32	YAKUSHKIN S V	68
TULUFENKO V N	5	VINOGRADOV I P	6	YANCHARINA A M	11
TULUPOV A V	41,91	VINOGRADOV V P	68	YANKAUSKAS A	41,51

YANKOVICH V N	80	ZAKHARENKO YU A	93	ZUYEV V I	57
YANOVSKIY V P	94	ZAKHAROV B V	24,50	ZUYEV V YE	57
YAREMKO A M	32,83	ZAKHAROV M I	74	ZVEREV F G	2
YAROSHCHUK O V	31	ZAKHAROV M V	23	ZVEZDIN A K	75
YAROSHENKO T YU	48	ZAKHAROV N S	95	ZVEZDOVA N P	78
YAROSLAVSKIY L P	58,60,99	ZAKHAROV S D	74	ZYKOV G A	98
YARZHEBITSKIY V B	24	ZALESKAYA G A	66	ZYKOVA YE V	12
YASINSKIY V M	12	ZALOGIN A N	47	ZYSIN YA YU	91
YASTREBKOV A B	86	ZAMCHEVSKIY V V	51		
YASTREBOV B S	75	ZAMKOV A V	36,38		
YATSENKO A S	10	ZANIN V V	54,57		
YATSIHAVICHYUS S I	91	ZAPOL'SKIY A F	17		
YAVICH B S	75	ZAPOROZHETS T YE	64		
YEFIMKOV V F	4	ZAPOROZHETS V M	48		
YEFIMOV B G	89	ZAREMBA R	13		
YEFIMOV V M	23	ZARETSKIY A I	33		
YEGEREV S V	37	ZARNIPOV A	61		
YEGOROV G N	2	ZASAVITSKIY I I	20		
YEGOROV V G	17	ZASKAL'KO O P	53,60		
YEGOROVA L V	81	ZASLAVSKAYA V R	4		
YELAYEV V F	15	ZAVORUYEV S M	66		
YELISEYEV P G	7	ZAYDEL' I N	24		
YELISEYEV V V	60	ZAYTSEV S V	7,60		
YELIZAROV A YU	32	ZEL'DOVICH B YA	51,58		
YELKIN N N	42	ZELENOV L A	70		
YELKIN O K	24	ZEMLYANOV A A	55		
YELOV V V	13	ZEMLYANOV S G	81		
YEMEL'YANOV A A	28	ZEMSKOV YE M	34		
YEMEL'YANOV V I	96	ZENKOV YU V	92		
YENAKI N A	32	ZEYFAS A I	47		
YENAKIY V N	32	ZEYGER S G	32		
YEREMENKO A M	80	ZEYLIKOVICH I S	15		
YEREMINA I V	91	ZHAITARYUK V G	53		
YERMACHENKO V M	10,11	ZHAMALETDINOVA YE V	38		
YERMISHKINA N N	88	ZHARIKOV YE V	1,2,3,39		
YERMOLAYEV V S	26	ZHELTIKOV A M	28		
YERMOLENKO S B	64	ZHELUDEV N I	41		
YEROFEYEV YE A	33	ZHERDIYENKO V V	58		
YERSHOV A I	87	ZHIDKOV A G	10,14,15		
YERSHOV B V	3		16,94		
YERSHOVA L M	86	ZHIDKOV N V	18		
YESAYAN A A	51	ZHILENIS A A	91		
YESIPOV S E	41	ZHIL'TSOV V I	25		
YES'KOV N A	3,86	ZHINDULIS A	77		
YEVSTIGNEYEV A R	46	ZHITNEV YU N	66		
YEVSTRATENKO L P	90	ZHITNEVA G P	66		
YUDANOV V A	55	ZHITNIK I A	22		
YUDOVICH M YE	54	ZHITNYUK V A	1		
YUKALOV V I	75	ZHMUD' V A	24		
YUMASHEV K V	40	ZHUKAUSKAS A	87		
YUNOVICH A E	87	ZHUKOV N D	6		
YUOZAPAVICHYUS A	3	ZHUKOV N N	60		
YURCHENKO I A	39	ZHUKOVA YE N	57		
YUROVSKIY V A	10	ZHULAY V YA	7		
YURSHENAS S	83	ZHURAVLEV A B	77		
YURYCHEV N N	18	ZHVAVYY S P	88		
YUZHAKOV V I	39	ZIMAKOV V P	90		
YUZHIN A I	23	ZIMMER D	94		
		ZINCHENKO M I	13		
ZABAZNOV A M	2	ZINOV'YEV P V	26		
ZABRODIN I G	22	ZLOBIN V V	14		
ZADIRANOV YU M	23	ZOLIN V F	4		
ZADKOV V N	77,87	ZOLOVAR' A V	98		
ZADORIN A S	38	ZOLOTOV S I	87		
ZAFIROVA B S	69	ZORIN V D	54		
ZAGIDULLIN M V	18	ZOTEYEV A V	92		
ZAGINEY A A	92	ZOZULYA A A	60		
ZAGUMENNYI A I	2	ZUBAREV I G	4		
ZAK YE A	71,74	ZUBKOV V A	54		