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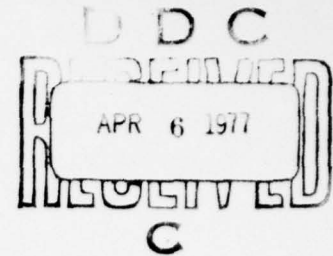


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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

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DARPA Order No. 3097, Amendment 2

March 31, 1977

DARPA Order No. 3097, Amendment 2
Program Code No. 7L10, Program Element Code 62711E
Name of Contractor:
Informatics Inc.
Effective Date of Contract:
January 3, 1977
Contract Expiration Date:
March 31, 1977
Amount of Contract: \$59,790

Contract No. MDA-903-77C-0153
Principal Investigator:
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Short Title of Work:
"Soviet Lasers"

This research was supported by the Defense Advanced Research Projects Agency and was monitored by the Defense Supply Service - Washington, under Contract No. MDA-903-77C-0153. The views and conclusions contained in this document are those of the author and should not be interpreted as necessarily representing the official policies, either express or implied, of the Defense Advanced Research Projects Agency or the United States Government.

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, No. 25, <i>Number 25,</i> JULY - SEPTEMBER 1976		5. TYPE OF REPORT & PERIOD COVERED Scientific ... Interim
7. AUTHOR(s) Stuart G. Hibben, Carl Minkus		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Informatics Inc. 6000 Executive Boulevard Rockville, Maryland 20852		8. CONTRACT OR GRANT NUMBER(s) MDA-903-77C-0153 <i>DARPA Order 3097</i>
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency/TAO 1400 Wilson Boulevard Arlington, Virginia 22209		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS DARPA Order No. 3097 Amdt. 2. Program Code No. 7L10, Prog. El. Code 62711E
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Defense Supply Service - Washington Room 1D245, Pentagon Washington, D. C. 20310		12. REPORT DATE March 31, 1977
		13. NUMBER OF PAGES 103 <i>127-110p</i>
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
16. DISTRIBUTION STATEMENT (of this Report) <i>31 Mar 77</i> Approved for public release; distribution unlimited.		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES <i>387-113</i>		
19. KEY WORDS Solid State Lasers, Liquid Lasers, Gas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, Crystal Growing, UV Lasers, X-Ray Lasers, Laser Theory, Laser Biological Effects, Laser Communications, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Measurement Applications, Laser Parameters, Laser Beam-Target Interaction, Laser Plasma		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This is the Soviet Laser Bibliography for the third quarter of 1976 and is No. 25 in the series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; computer technology; holography; laser-induced chemical reactions; instrumentation and measurements; beam-target interaction; and plasma generation and diagnostics.		

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Introduction

This bibliography has been compiled by the staff of Informatics Inc. in response to a continuing contractual assignment to monitor current Soviet-bloc developments in the quantum electronics field. Of all material reviewed, the major yield has been from the approximately 30 periodicals which are known to report the most advanced and interesting findings in Soviet laser technology.

The period covered is the third quarter of 1976, and includes all significant laser-related articles received by us during that interval. The structure and selection criteria are basically those used in the preceding reports.

For convenience we have abbreviated frequently cited source names; a source abbreviation list is included. Unless indicated by a parenthesized (RZh, KL) notation, all cited sources are available at Informatics Inc. The numbers in parentheses following the authors' names in the text refer to the Cumulative Affiliations List which includes all author affiliations from 1969 to the present.

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I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

Krivoshchekov, G. V., V. K. Makukha, V. M. Semibalamut, and V. S. Smirnov (345). Solid state ring laser with an external signal. KE, no. 8, 1976, 1782-1792.

Leontovich, A. M., A. V. Milinkevich, A. M. Mozharovskiy, A. Yu. Orlov, V. A. Savva, A. M. Samson, and L. K. Slivka (1). Self-modulation of a giant ruby laser pulse at low temperature. KE, no. 9, 1976, 1914-1918.

Stroganov, V. I., and V. I. Verbovskiy (10). Ruby laser with variable radiation losses. ZhTF, no. 8, 1976, 1690-1692.

2. Crystal: Rare-Earth Activated

a. Nd³⁺

Dianov, Ye. M., S. K. Isayev, L. S. Korniyenko, N. V. Kravtsov, and V. V. Firsov (0). Lightguide laser. IN: Sb 1, 55. (RZhRadiot, 9/76, 9Yell6)

Gamal, K., G. Yelinkova, A. Novotny, and M. Vrbova (0). High brilliance YAG:Nd laser. IN: Sb 1, 57. (RZhRadiot, 9/76, 9Yell7)

Kaminskiy, A. A., A. O. Ivanov, S. E. Sarkisov, I. V. Mochalov, V. A. Fedorov, and L. Li (0). Comprehensive studies of the spectral-lasing characteristics of an LuAlO₃:Nd³⁺ crystal. ZhETF, v. 71, no. 3, 1976.

Melkonyan, A. A., A. A. Nazaryan, T. A. Papazyan, and K. I. Pokhsraryan (0). Study of the characteristics of a quasi c-w YAG:Nd³⁺ laser at high pumping levels. IN: Sb 1, 64. (RZhRadiot, 9/76, 9Yell5)

b. Er³⁺

Basiyev, T. T., Ye. V. Zharikov, V. I. Zhekov, T. M. Murina, V. V. Osiko, A. M. Prokhorov, B. P. Starikov, M. I. Timoshechkin, and I. A. Shcherbakov (1). Radiative and radiationless transitions of Er³⁺ in mixed yttrium-erbium-aluminum garnets. KE, no. 7, 1976, 1471-1477.

Kaminskiy, A. A., T. I. Butayeva, A. O. Ivanov, I. V. Mochalov, A. G. Petrosyan, G. I. Rogov, and V. A. Fedorov (0). New data on stimulated emission in crystals with Er³⁺ and Ho³⁺ ions. ZhTF P, no. 17, 1976, 787.

c. Ln³⁺

Kaminskiy, A. A., T. I. Butayeva, A. M. Kevorkov, V. A. Fedorov, A. G. Petrosyan, and M. M. Gritsenko (13,59). New data on stimulated emission in crystals with a high concentration of Ln³⁺ ions. NM, no. 8, 1976, 1508-1511.

3. Crystal: Miscellaneous

Naboykin, Yu. V., L. A. Ogurtsova, A. P. Podgorny, F. S. Pokrovskaya, and A. M. Ratner (0). Effect of the lifetime of vibrational levels at the ground state on the development of stimulated emission in molecular crystals. ZhPS, v. 25, no. 1, 1976, 59-62.

Ryabov, S. G., and L. K. Gavrilov (0). Current status and trends in the development of solid state lasers. Pribory i sistemy upravleniya, no. 3, 1976, 13-17. (RZhF, 7/76, 7D1121)

4. Semiconductor: Simple Junction

a. GaAs

Bogatov, A. P., P. G. Yeliseyev, and V. V. Mamutin (1). Effect of excess current carriers on the dielectric permittivity at the radiative transition frequency in injection lasers. KE, no. 7, 1976, 1609-1611.

Goncharov, I. G., K. B. Dedushenko, and A. F. Uzkiy (0). Frequency tuning in a semiconductor laser with e-beam excitation. ZhPS, v. 25, no. 2, 1976, 345-347.

b. InSb

Grishechkina, S. P. (1). Study of spontaneous and coherent radiation in InSb during double injection of the charge carriers. IN: Tr 1, 59-110. (RZhF, 9/76, 9D1017)

c. InAs

Gurfinkel', V. I., I. V. Kryukova, V. V. Lebedev, V. I. Leskovich, G. B. Lun'kina, Ye. V. Matveyenko, S. S. Strel'chenko, N. P. Khatyrev, and V. A. Chapnin (141). Stimulated emission in InAs under e-beam excitation. KE, no. 7, 1976, 1601-1605.

5. Semiconductor: Mixed Junction

Ismailov, I., and N. Shokhudzhayev (215). Effect of uniaxial compression on the electroluminescence spectra and on the lasing threshold of laser diodes based on GaP_{0.3}As_{0.7}. DAN Tadzh, no. 3, 1976, 23-26.

6. Semiconductor: Heterojunction

Bogatov, A. P., H-J. Bachert, P. G. Yeliseyev, A. Kler, and M. A. Man'ko (1). Radiation characteristics of an injection laser with an external resonator. KE, no. 8, 1976, 1819-1821.

Borisov, N. A., V. M. Lakeyev, M. G. Mil'vidskiy, and O. V. Pelevin (95). Properties of (GaAs)_{1-x}(ZnSe)_x solid solutions. FTP, no. 8, 1976, 1594-1596.

Dolginov, L. M., P. G. Yeliseyev, and M. G. Mil'vidskiy (1,95). Multicomponent semiconductor solid solutions and their use in lasers (review). KE, no. 7, 1976, 1381-1393.

7. Glass: Nd

Arbuzov, V. I., N. B. Brachkovskaya, I. A. Zhmyreva, V. P. Kolobkov, P. I. Kudryashov, A. K. Przhevskiy, V. A. Savost'yanov, and M. N. Tolstoy (0). Absolute quantum yield of luminescence in Nd-activated glasses. KE, no. 9, 1976, 2005-2013.

Azizov, E. A., I. N. Burdonskiy, Ye. V. Zhuzhukalo, A. N. Kolomiyskiy, P. P. Pashinin, M. I. Pergament, Yu. P. Rudnitskiy, R. V. Smirnov, G. V. Smirnov, V. G. Solov'yeva, V. M. Chernyak, and V. A. Yagnov (0). Problem of optimizing single pulse Nd:glass laser systems. IN: Sb 2, 353-362. (RZhRadiot, 7/76, 7Ye98)

Babenko, V. A., V. I. Malyshev, and A. A. Sychev (1).
Correlation of the coefficient of transmissivity of passive switches
with radiation power density of an optically excited Nd laser.
KE, no. 8, 1976, 1743-1747.

Bespalov, V. I., Yu. K. Verevkin, and E. Ya. Daume (0).
Time characteristics of the radiation in an Nd:glass laser with
resonance modulation of losses. IN: Sb 1, 65. (RZhRadiot,
9/76, 9Ye107)

Biryukov, V. A., B. N. Borisov, N. P. Karnaukh, V. P. Kirsanov,
Yu. I. Kruzhilin, V. K. Orlov, S. V. Troshkin, and V. S.
Shil'dyayev (0). Liquid-cooled Nd:glass disk laser.
KE, no. 8, 1976, 1705-1709.

Bykovskiy, N. Ye., N. V. Pletnev, Yu. V. Senatskiy, G. V.
Sklizkov, and S. I. Fedotov (0). Active mode locking in an Nd:glass
laser. IN: Sb 1, 54. (RZhRadiot, 9/76, 9Ye111)

Dzhibladze, M. I., B. S. Lezhava, Z. G. Esiashvili, M. N.
Bazhunaishvili, E. Sh. Tkavashvili, V. R. Sagaradze, and S. V.
Tskhadadze (0). Relaxational vibrations of lasing in a fiber optic
laser. IN: Sb 1, 52. (RZhRadiot, 9/76, 9Ye108)

Dzhibladze, M. I., B. S. Lezhava, L. E. Lazarev, M. I.
Sadagashvili, and D. L. Dzhaparidze (0). Nanosecond radiation
pulses in a fiber optic laser. IN: Sb 1, 53. (RZhRadiot, 9/76,
9Ye112)

Gaponov, S. V., L. V. Paramonov, N. N. Salashchenko, and Ya. I.
Khanin (0). Nonlinear optical effects shaping giant pulses in an
Nd:glass laser with an organic solvent. IN: Sb 1, 72. (RZhRadiot,
9/76, 9Ye110)

Kangro, A. R., Ya. E. Kariss, A. K. Przhevuskiy, V. A. Savost'yanov, and M. N. Tolstoy (0). Change in the luminescence spectra of neodymium glass in the attenuation process. ZhTF P, no. 14, 1976, 652-655.

Rudnitskiy, Yu. P., R. V. Smirnov, and V. M. Chernyak (0). Behavior of the population at the $^4I_{11/2}$ level of Nd^{3+} in glasses during interactions with high power coherent radiation. KE, no. 9, 1976, 2035-2042.

Szymanski, M. (NS). Stimulated Brillouin scattering in an Nd:glass laser resonator. APP, v. A49, no. 6, 1976, 749-761.

Vdovchenko, R. G., V. P. Kirsanov, Yu. I. Kruzhilin, S. V. Troshkin, and V. A. Ryabinkina (0). Effect of the pumping regime on the level of population inversion in Nd:glass. KE, no. 8, 1976, 1710-1714.

Vorob'yev, N. S., V. V. Korobkin, and A. A. Malyutin (0). Two-frequency tunable Nd:glass laser. IN: Sb 1, 88. (RZhRadiot, 9/76, 9Ye106)

8. Glass: Eu

Alimov, O. K., T. T. Basiyev, and Yu. K. Voron'ko (0). Luminescence and energy migration in silicate glass activated by Eu^{3+} under monochromatic laser excitation. IN: Sb 1, 63. (RZhRadiot, 9/76, 9Ye113)

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine

Klyukach, I. L., and R. I. Sokolovskiy (152). Structure of superluminescence spectra. ZhETF, v. 71, no. 2, 1976, 424-432.

Kravchenko, V. I., and A. A. Smirnov (0). Single frequency ultraviolet sweep laser. IN: Sb 1, 79. (RZhRadiot, 9/76, 9Ye79)

Mostovnikov, V. A., A. N. Rubinov, G. R. Ginevich, S. S. Anufrik, and A. F. Abramov (3). Restoration of lasing properties in dye solutions after their photochemical destruction. KE, no. 9, 1976, 2064-2067.

Stefanov, V. Y., and M. N. Nenchev (NS). Threshold characteristics of a dye laser excited by a "double pulse" method. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 4, 1975, 380-389. (RZhF, 7/76, 7D1148)

b. Phthalimide

Rudik, K. I., L. G. Pikulik, L. P. Senkevich, M. Ya. Kostko, and A. I. Maksimov (0). Study of optical quenching of fluorescence in phthalimide solutions. ZhPS, v. 25, no. 3, 1976, 450-454.

c. Miscellaneous Dyes

Alekseyev, V. A., L. K. Denisov, N. A. Kozlov, V. N. Makarov, and L. M. Mel'nikova (0). Highly efficient lasing in organic compound solutions in the blue-green region of the spectrum in a flashlamp-pumped laser. IN: Sb 1, 98. (RZhRadiot, 9/76, 9Ye83)

Asimov, M. M., and A. N. Rubinov (0). Measuring the gain and triplet-triplet absorption spectra in organic compounds by means of a frequency-tunable dye laser. OIS, v. 41, no. 3, 1976, 451-455.

Borisevich, N. A., A. Ya. Gorelenko, V. A. Povedaylo, and V. A. Tolkachev (0). Laser based on vapors of 1,4-di(2-benzoxazolyl)-benzene and 2-(4-diphenyl)-5-phenyloxazole. ZhPS, v. 25, no. 2, 1976, 332-337.

Bubekov, Yu. I., S. A. Tikhomirov, G. B. Tolstorozhev, and D. M. Khalimanovich (0). Spectral and polarization characteristics of picosecond lasing in complex molecule solutions. ZhPS, v. 25, no. 3, 1976, 441-444.

Darmanyan, A. P., V. A. Kuz'min, N. N. Romanov, and F. S. Babichev (67). Radiationless degradation of energy in sterically hindered carbocyanine dyes. DAN SSSR, v. 229, no. 6, 1976, 1367-1370.

Efendiyev, T. Sh., A. V. Adamushko, Zh. Bor, and L. Kozma (0). Dye laser with distributed feedback operating with a high pulse rate under excitation by nitrogen and YAG:Nd³⁺ lasers. IN: Sb 1, 76. (RZhRadiot, 9/76, 9Ye78)

Isayev, A. A., M. V. Belokon', G. G. Petrash, M. A. Kazaryan, A. N. Rubinov, K. I. Zemskov, and P. G. Yevtukhovich (0). Jet dye laser pumped by a copper vapor laser. IN: Sb1, 22. (RZhRadiot, 9/76, 9Ye82)

Levin, M. B., A. S. Cherkasov, and V. I. Shirokov (0). Improving the lasing efficiency of dyes by adding a solution of 1,4-diphenylbutadiene to them. OIS, v. 41, no. 1, 1976, 145-147.

Nizhegorodov, N. I., V. P. Zvolinskiy, V. I. Kuznetsov, and V. F. Ignatov (0). Study of the effect of the solvent and concentration on the radiation spectrum of 3,8-dimethyl-2-azanthracene. IN: Sb 3, 197-202. (RZhF, 7/76, 7D461)

Rubinov, A. N., T. Sh. Efendiyev, and A. V. Adamushko (3). Dye laser with distributed feedback operating in a regime of partially repetitive pulses. KE, no. 8, 1976, 1816-1817.

Rubinov, A. N. (0). Dye lasers. Cited in KE, no. 8, 1976, 1841.

Rubinov, A. N., and V. I. Tomin (0). Dye lasers and their applications. IN: Sb 4, 5-127. (RZhF, 9/76, 9D1025)

Rubinov, A. N., T. Sh. Efendiyev, A. V. Adamushko, and Zh. Bor (0). New method for simultaneous generation of radiation at some discrete frequencies with independent tuning. IN: Sb 1, 75. (RZhRadiot, 9/76, 9Ye81)

Rubinov, A. N., and M. M. Asimov (0). Radiation losses in scattering in an organic dye laser. ZhPS, v. 25, no. 2, 1976, 232-235.

Rubinov, A. N., T. Sh. Efendiyev, A. V. Adamushko, Zh. Bor, and N. A. Nemkovich (3). Dye laser with distributed feedback operating in a regime of partially repetitive pulses. ZhTF P, no. 15, 1976, 704-708.

Tomin, V. I., and P. A. Nemkovich (0). Dye lasers with electrochemical control of the radiation parameters. IN: Sb 1, 82. (RZhRadiot, 9/76, 9Ye80)

C. GAS LASERS

1. Simple Mixures

a. He-Ne

Akchurin, G. G., V. M. Bokov, and V. V. Tuchin (0). Energy characteristics of an He-Ne laser during modulation of the discharge current. RiE, no. 8, 1976, 1669-1674.

Apostolov, K. V., and V. Y. Stefanov (NS). Modulating an He-Ne laser by means of a discharge current. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 4, 1975, 373-379. (RZhF, 7/76, 7D1212)

Belousova, I. M., and V. B. Znamenskiy (0). Lasing mechanism in an He-Ne mixture excited by a discharge in a cathode field. ZhPS, v. 25, no. 3, 1976, 434-440.

Gonchukov, S. A., S. T. Kornilov, and Ye. D. Protsenko (16). Oscillation modes of a gas laser with a waveguide resonator. KE, no. 8, 1976, 1827-1828.

Ivanov, E. I., and V. I. Petrov (0). Dependence of a medium output power of an He-Ne laser on the modulation frequency of resonator losses. OiS, v. 41, no. 3, 1976, 496-498.

Ivanov, E. I., V. I. Petrov, and N. N. Petrova (0). Lasing spectrum of an He-Ne laser as a function of the modulation frequency of resonator losses. OiS, v. 41, no. 3, 1976, 498-499.

Ivanov, P., S. Popov, L. Dlugnikov, and T. Kortenski (NS). Method for predicting the service life of an He-Ne laser. Godishn. Vissh. tekhn. uchebni zaved. Fizika, v. 10, no. 2, 1973(1975), 101-106. (RZhF, 9/76, 9D1042)

Kasel'skiy, V. A., Ye. P. Ostapchenko, A. I. Ryabov, and V. A. Stepanov (0). Some lasing characteristics of an He-Ne laser in the near infrared. KE, no. 8, 1976, 1821-1824.

Ostapchenko, Ye. P., V. A. Os'kin, V. B. Ryumin, and V. A. Stepanov (0). Distribution function of electrons according to the energies in an He-Ne mixture in a high frequency discharge. KE, no. 9, 1976, 1980-1984.

Popescu, G., and C. Blănar (NS). Single-frequency He-Ne laser. Studii și cercetări de fizică, v. 28, no. 1, 1976, 95-100. (RZhF, 9/76, 9D1041)

Radloff, W., and V. Stert (NS). Contrast of an inverted Lamb dip in a laser with an internal absorption cell. KE, no. 7, 1976, 1509-1516.

Zakharenko, Yu. G., V. Ye. Privalov, and Ya. A. Fofanov (0). Effect of discharge oscillations on the radiation intensity of a gas laser. RiE, no. 9, 1976, 1901-1909.

2. Molecular Beam and Ion

a. CO₂

Afonin, Yu. V., A. G. Ponomarenko, and V. N. Tishchenko (0). Efficiency of a CO₂ electroionization laser at a high level of excitation of the active medium. IN: Sb 5, 62-64. (RZhMekh, 8/76, 8B358)

Andreyev, S. I., I. M. Belousova, P. N. Dashuk, D. Yu. Zaroslov, Ye. A. Zobov, N. V. Karlov, G. P. Kuz'min, S. M. Nikiforov, and A. M. Prokhorov (1). CO₂ plasma-ribbon laser. KE, no. 8, 1976, 1721-1726.

Apostol, I., G. Dragulescu, D. Dragulinescu, C. Grigoriu, I. N. Mihailescu, I. Morjan, A. Nitoi, I. M. Popescu, and V. S. Tatu (NS). Study of the parameters of a TEA CO₂ laser with helically arranged electrodes. Studii si cercetari de fizica, v. 28, no. 1, 1976, 3-13. (RZhF, 9/76, 9D1061)

Apostol, I., D. Dragulinescu, C. Grigoriu, I. N. Mihailescu, and V. S. Tatu (NS). High-power TEA CO₂ lasers. Studii si cercetari de fizica, v. 28, no. 2, 1976, 163-180. (RZhF, 9/76, 9D1060)

Apostol, I., D. Dragulinescu, C. Grigoriu, I. N. Mihailescu, and A. Nitoi (NS). Two-stage TEA CO₂ laser. Studii si cercetari de fizica, v. 28, no. 2, 1976, 181-188. (RZhF, 9/76, 9D1062)

Arutyunyan, G. G., and G. A. Galechyan (0). Effect of dissociative adhesion in a laser discharge plasma on the transverse instability of the positive column in molecular gases. IN: Sb 1, 31. (RZhRadiot, 9/76, 9Ye228)

Barkhudarov, E. M., V. R. Berezovskiy, G. V. Gelashvili, M. I. Taktakishvili, T. Ya. Chelidze, and V. V. Chichinadze (0). Study of the characteristics of a high-power pulsed CO₂ laser. IN: Sb 1, 6. (RZhRadiot, 9/76, 9Ye8)

Basov, N. G., V. A. Boyko, V. A. Danilychev, V. D. Zvorykin, A. N. Lobanov, A. F. Suchkov, I. V. Kholin, and A. Yu. Chugunov (0). CO₂ electroionization laser with a plasma mirror. IN: Sb 1, 5. (RZhRadiot, 9/76, 9Ye12)

Belotserkovets, A. V., G. A. Kirillov, Yu. V. Kuratov, and Yu. V. Savin (0). Pulsed CO₂ laser with resonant optical pumping by a DF laser. IN: Sb 1, 35. (RZhRadiot, 9/76, 9Ye18)

Berger, N. K., Yu. N. Luk'yanov, and Yu. Ye. Studenikin (0).
Nonlinear diffraction effects in a CO₂ laser with an unstable resonator.
IN: Sb 1, 29. (RZhRadiot, 9/76, 9Ye7)

Biryukov, A. S., A. Yu. Volkov, Ye. M. Kudryavtsev, and R. I. Serikov (1). Analyzing data on the probability of spontaneous emission and cross-sections of shock broadening of lines at the 00⁰1-10⁰0 transition of a CO₂ molecule. KE, no. 8, 1976, 1748-1754.

Blinov, S. I., G. A. Zalesskaya, and A. A. Kotov (0).
Spectral characteristics of radiation in a transverse dual-discharge CO₂ laser. ZhPS, v. 25, no. 2, 1976, 341-344.

Bychkov, Yu. I., V. P. Kudryashov, V. V. Osipov, and V. V. Savin (78). Effect of the parameters of an active medium on the radiation energy of a CO₂ electric discharge laser. KE, no. 7, 1976, 1558-1563.

Bychkov, Yu. I., V. V. Osipov, and V. V. Savin (78). Study of a discharge in a CO₂-N₂-He gas mixture at high pressure. ZhTF, no. 7, 1976, 1444-1448.

Dubovoy, L. V., N. M. Ivanov, V. P. Poponin, and Yu. I. Sholokhov (0). Electron distribution function and speed of elementary processes in the molecular plasma of a CO₂ laser. IN: Sb 6, 32-35. (RZhKh, 19AB, 9/76, 9B1399)

Dumitras, D. C., N. A. Shubina, Ye. M. Kudryavtsev, and N. N. Sobolev (0). Power and gain measurements in a waveguide CO₂ laser. Revue roumaine de physique, v. 20, no. 9, 1975, 1001-1004. (RZhF, 7/76, 7D1174)

Knyazev, I. N. (72). CO₂ laser for selective action of radiation on matter. KE, no. 8, 1976, 1852-1853.

Konev, Yu. B., I. V. Kochetov, V. G. Pevgov, and M. L. Petrov (0). Energy characteristics of a master oscillator for obtaining nanosecond pulses in a CO₂ amplifier. IN: Sb 1, 4. (RZhRadiot, 9/76, 9Ye15)

Kozlov, G. I., and A. S. Korablev (17). Pulsed laser with a nonself-sustaining discharge using a mixture of CO₂ with air. ZhTF P, no. 13, 1976, 589-593.

Kuprenyuk, V. I., V. V. Sergeev, and V. Ye. Sherstobitov (0). Effect of spatial inhomogeneity of gain on the properties of a laser with an unstable resonator. KE, no. 9, 1976, 1962-1966.

Orishich, A. M., A. G. Ponomarenko, and V. N. Tishchenko (0). Efficiency and gain of a TEA CO₂ laser at a high level of excitation of the active medium. IN: Sb 5, 60-61. (RZhMekh, 8/76, 8B359)

Ponomarenko, A. G., and S. P. Shalamov (0). Energy cells for power supply to sections of a high power CO₂ laser amplifier. IN: Sb 5, 57-59. (RZhF, 7/76, 7D1238)

Zalesskiy, V. Yu. (0). Conditions for homogeneity of a glow discharge in a dense unbounded gas. ZhTF, no. 8, 1976, 1670-1677.

b. CO

Avtonomov, V. P., Yu. A. Kochetkov, V. N. Ochkin, and N. N. Sobolev (1). CO laser with a diffraction lattice. IN: Sb 1, 8. (RZhRadiot, 9/76, 9Ye45)

Basov, N. G., V. A. Danilychev, A. A. Ionin, O. M. Kerimov, I. B. Kovsh, and N. L. Poletayev (1). Lasing in a cooled high-pressure CO electroionization laser. ZhTF P, no. 18, 1976, 817-820.

Basov, N. G., V. A. Danilychev, A. A. Ionin, I. B. Kovsh, A. F. Suchkov, B. M. Urin, and M. U. Khasenov (0). Energy and spectral-time characteristics of a CO electroionization laser with a non-cooled operating gas mixture. IN: Sb 1, 11. (RZhRadiot, 9/76, 9Ye47)

Basov, N. G., V. A. Danilychev, V. I. Dolinina, A. A. Ionin, I. B. Kovsh, N. L. Poletayev, A. F. Suchkov, and B. M. Urin (0). Theoretical study of the lasing characteristics of a CO electroionization laser. IN: Sb 1, 12. (RZhRadiot, 9/76, 9Ye46)

c. Noble Gas

Alferov, G. N., V. I. Donin, and B. Ya. Yurshin (0). Problem of the optimal cross-section of a constant flow discharge for an Ar(II) ion laser. ZhPS, v. 25, no. 1, 1976, 40-42.

Basov, N. G., M. D. Baranov, S. G. Burdin, V. A. Danilychev, V. A. Dolgikh, O. M. Kerimov, and A. S. Podsosonnyy (0). Laser using compressed xenon and an Xe-Ar mixture in the vacuum ultraviolet. IN: Sb 1, 26. (RZhRadiot, 9/76, 9Ye37)

Basov, N. G., A. N. Brunin, V. A. Danilychev, A. G. Degtyarev, V. A. Dolgikh, O. M. Kerimov, and A. N. Lobanov (0). XeO molecular laser in the green region of the spectrum. IN: Sb 1, 27. (RZhRadiot, 9/76, 9Ye36)

Basov, N. G., A. N. Brunin, V. A. Danilychev, V. A. Dolgikh, O. M. Kerimov, L. L. Kozorovitskiy, A. N. Lobanov, and D. D. Khodkevich (0). High-pressure lasers using mixtures of noble gases with nitrogen. IN: Sb 1, 28. (RZhRadiot, 9/76, 9Ye33)

Basov, N. G., A. N. Brunin, V. A. Danilychev, A. G. Degtyarev, V. A. Dolgikh, O. M. Kerimov, and A. N. Lobanov (1). Kinetics of population inversion on the active medium of an XeO* molecular laser radiating in the green region of the spectrum. KE, no. 8, 1976, 1727-1732.

Danilychev, V. A., V. A. Dolgikh, O. M. Kerimov, S. I. Sagitov, and D. B. Stravrovskiy (1). Study of the radiation resistance of dielectric mirrors in a xenon laser resonator. KE, no. 8, 1976, 1817-1819.

Kochubey, S. A., V. N. Lisitsyn, A. R. Sorokin, and P. L. Chapovskiy (0). Tunable pulsed high pressure gas lasers using atomic transitions. IN: Sb1, 87. (RZhRadiot, 9/76, 9Ye34)

Vinogradova, A. A., O. K. Yegorov, D. P. Krindach, M. I. Landman, B. I. Nazarov, and V. M. Salimov (0). Pulse shaping in an argon laser during coherent interaction of the radiation with an absorption element. IN: Sb 1, 24. (RZhRadiot, 9/76, 9Ye44)

d. \underline{H}_2

Basov, N. G., N. Ye. Vtorova, A. N. Lobanov, A. N. Orayevskiy, and A. F. Suchkov (0). Possibility of amplifying short laser pulses at vibrational-rotational transitions of molecular hydrogen and its isotopes. IN: Sb 1, 9. (RZhRadiot, 9/76, 9Ye42)

Grasyuk, A. Z., I. G. Zubarev, A. V. Kotov, S. I. Mikhaylov, and V. G. Smirnov (0). Tunable IR compressed hydrogen combination laser. IN: Sb 1, 112. (RZhRadiot, 9/76, 9Ye41)

e. Submillimeter

Fesenko, L. D., and S. F. Dyubko (34). Optimizing the parameters of optically pumped submillimeter lasers. KE, no. 7, 1976, 1549-1557.

f. Metal Vapor

Anikin, V. I., S. A. Akhmanov, K. N. Drabovich, and A. N. Dubovik (2). Study of two- and three-photon resonances in atoms in a strong nonmonochromatic field. KE, no. 9, 1976, 2014-2022.

Boyarskiy, K. K., O. M. Kobzar', and Ye. N. Kotlikov (0). Determining the relaxation constants at the $4d^9 5s^2 D_{3/2}$ level of Cd(II) in an ion laser plasma. OIS, v. 41, no. 1, 1976, 163-166.

Isakov, I. M., and A. G. Leonov (0). Copper vapor laser at atmospheric pressure. IN: Sb 1, 25. (RZhRadiot, 9/76, 9Ye21)

Isayev, A. A., M. A. Kazaryan, G. G. Petrash, S. G. Rautman, and A. M. Shalagin (0). Processes for shaping the output beam in pulsed lasers with an unstable resonator. IN: Sb 1, 21. (RZhRadiot, 9/76, 9Ye22)

Isayev, A. A., M. A. Kazaryan, G. Yu. Lemmerman, G. G. Petrash, and A. N. Trofimov (1). Pulsed lasing at transitions of a copper atom in a discharge in copper bromide and copper chloride vapors. KE, no. 8, 1976, 1800-1802.

Isayev, A. A., M. A. Kazaryan, G. G. Petrash, and V. M. Cherezov (1). Study of a pulsed manganese vapor laser. KE, no. 8, 1976, 1802-1805.

Kulagin, Ye. V., A. I. Pikhtelev, Yu. P. Tutturkin, Yu. V. Timofeyev, and B. P. Fateyev (0). Study of optical pumping in an Rb^{87} vapor laser and its amplitude characteristics. IVUZ Radiofiz, no. 7, 1976, 993-1000.

Latush, Ye. L., G. N. Tolmachev, and V. Ya. Khasilev (325). Dynamics of transverse separation of metal vapors in cataphoretic lasers. KE, no. 9, 1976, 1882-1886.

Latush, Ye. L., V. S. Mikhalevskiy, M. F. Sem, G. N. Tolmachev, and V. Ya. Khasilev (325). Lasing at ion transitions of metals under transverse high frequency excitation. ZhETF P, v. 24, no. 2, 1976, 81-83.

Subotinov, N. V., and P. K. Telbizov (NS). Spontaneous emission at the 441.6 nm line in an He-Cd laser. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 4, 1975, 368-373. (RZhF, 8/76, 8D1176)

g. Gasdynamic

Anan'yev, Yu. A., V. P. Trusov, and V. Ye. Sherstobitov (0). Output of an unstable resonator for a gasdynamic laser. KE, no. 8, 1976, 1715-1720.

Belkov, P. V., V. P. Vakarov, B. K. Tkachenko, and N. N. Shirokov (0). Experimental study of the dependence of gain in a CO_2-N_2 gasdynamic laser on the water vapor content. FGiV, no. 4, 1976, 568.

Gavrikov, V. F., A. P. Dronov, V. K. Orlov, A. K. Piskunov, and V. L. Shikanov (0). Vibrational relaxation of CO in a supersonic flow. KE, no. 7, 1976, 1483-1493.

Golovichev, V. I., and M. D. Taran (0). Calculating the characteristics of a CO₂ gasdynamic laser. IN: Sb 5, 52-53. (RZhMekh, 8/76, 8B268)

Konyukhov, V. K., and A. M. Prokhorov (1). The second law of thermodynamics and quantum generators with thermal excitation. UFN, v. 119, no. 3, 1976, 541-550.

Ktalkherman, M. G., V. M. Mal'kov, and A. V. Petukhov (0). Stationary gasdynamic laser using the combustion products of a CO-H₂ mixture in air. IN: Sb 5, 53-56. (RZhF, 8/76, 8D1200)

Ktalkherman, M. G., V. M. Mal'kov, A. V. Petukhov, and Ya. I. Kharitonova (0). A c-w gasdynamic laser using combustion products of a CO-H₂ mixture in air. FGiV, no. 4, 1976, 578.

Testov, V. G., Yu. I. Grin', V. V. Golub, V. M. Polyakov, and I. M. Noboko (15). Gain and lasing in an N₂O-N₂(CO)-He mixture in a supersonic flow. ZhETF, v. 71, no. 1, 1976, 88-95.

Volkov, A. Yu., A. I. Demin, V. N. Yepikhin, and Ye. M. Kudryavtsev (1). Possibility of raising the efficiency of gasdynamic lasers: CS₂ gasdynamic lasers. KE, no. 8, 1976, 1833-1836.

Zielinski, A., M. Brunne, J. Milewski, and J. Stanco (NS). Gain and population inversion in a carbon monoxide c-w gasdynamic laser. BAPS, no. 6, 1976, 31(485)-38(492)

Gavrikov, V. F., A. P. Dronov, V. K. Orlov, A. K. Piskunov, and V. L. Shikanov (0). Vibrational relaxation of CO in a supersonic flow. KE, no. 7, 1976, 1483-1493.

Golovichev, V. I., and M. D. Taran (0). Calculating the characteristics of a CO₂ gasdynamic laser. IN: Sb 5, 52-53. (RZhMekh, 8/76, 8B268)

Konyukhov, V. K., and A. M. Prokhorov (1). The second law of thermodynamics and quantum generators with thermal excitation. UFN, v. 119, no. 3, 1976, 541-550.

Ktalkherman, M. G., V. M. Mal'kov, and A. V. Petukhov (0). Stationary gasdynamic laser using the combustion products of a CO-H₂ mixture in air. IN: Sb 5, 53-56. (RZhF, 8/76, 8D1200)

Ktalkherman, M. G., V. M. Mal'kov, A. V. Petukhov, and Ya. I. Kharitonova (0). A c-w gasdynamic laser using combustion products of a CO-H₂ mixture in air. FGiV, no. 4, 1976, 578.

Testov, V. G., Yu. I. Grin', V. V. Golub, V. M. Polyakov, and I. M. Noboko (15). Gain and lasing in an N₂O-N₂(CO)-He mixture in a supersonic flow. ZhETF, v. 71, no. 1, 1976, 88-95.

Volkov, A. Yu., A. I. Demin, V. N. Yepikhin, and Ye. M. Kudryavtsev (1). Possibility of raising the efficiency of gasdynamic lasers: CS₂ gasdynamic lasers. KE, no. 8, 1976, 1833-1836.

Zielinski, A., M. Brunne, J. Milewski, and J. Stanco (NS). Gain and population inversion in a carbon monoxide c-w gasdynamic laser. BAPS, no. 6, 1976, 31(485)-38(492)

h. Miscellaneous Molecular

Golger, A. L., V. S. Letokhov, and S. P. Fedoseyev (72, 74). Stark frequency shift at molecular transitions in a resonant optical field. KE, no. 7, 1976, 1457-1470.

3. Ring Lasers

Lisyuk, Yu. V. (0). Relativistic Doppler effect in the lasing regime of a ring laser. OiS, v. 41, no. 3, 1976, 482-484.

Privalov, V. Ye., and Yu. V. Filatov (163). Effect of change in the mode composition of radiation on the frequency characteristics of a gas ring laser. ZhTF, no. 9, 1976, 1888-1894.

Savel'yev, I. I., and A. M. Khromykh (0). Longitudinal modes in a three-dimensional ring resonator. KE, no. 7, 1976, 1517-1526.

Sudakov, V. F. (0). Systematic phase difference of vibrations in opposed beams of a vibrating ring resonator. ZhPS, v. 25, no. 1, 1976, 63-67.

Sudakov, V. F. (0). Fluctuations in a traveling wave generator. ZhPS, v. 25, no. 2, 1976, 362.

Sudakov, V. F. (0). Fluctuations in a traveling wave generator with variable frequency difference in the resonator. ZhPS, v. 25, no. 2, 1976, 362.

Sudakov, V. F. (0). Statistical characteristics of the beat signal frequency at the output of a traveling wave generator with randomly varying parameters. ZhPS, v. 25, no. 3, 1976, 445-449.

4. Theory

Belonuchkin, V. Ye., N. I. Yeskin, and G. R. Lokshin (118).

Scattered radiation in a single-pass optical amplifier.

IN: Tr 2, 55-61. (RZhF, 8/76, 8D1256)

Doroshkin, A. A. (0). Gas discharge tube for a pulsed gas laser.

Otkr izobr, no. 11, 1976, 360895.

Fedotov, A. B. (14). Region in which Lamb dip of power occurs

in gas lasers with inhomogeneous line broadening. IN: Sb 3, 175.

(RZhKh, 19AB, 12/76, 12A33)

Fedotov, A. B. (14). Calculation of collisions in describing the

Lamb dip in the theory of kinetic levels. IN: Sb 3, 182.

(RZhKh, 19AB, 12/76, 12A33)

Filippov, S. S. (0). Recombination kinetics of a dense plasma and

of population inversion in atomic levels. IN: Sb 7, 281-300.

(RZhRadiot, 7/76, 7Ye67)

Gudzenko, L. I., I. S. Lakoba, and S. I. Yakovlenko (0).

Plasma lasers using dispersed molecules. IN: Sb 1, 17.

(RZhRadiot, 9/76, 9Ye54)

Gudzenko, L. I., Yu. I. Syts'ko, and S. I. Yakovlenko (0).

Plasma laser using e-beams. IN: Sb 1, 18. (RZhRadiot, 9/76,

9Ye60)

Kal'vina, I. N., V. A. Milashov, V. F. Moskalenko, and Ye. P.

Ostapchenko (0). Pulsed gas laser. Author's certificate USSR,

no. 448828, issued 30 October 1975. (RZhRadiot, 7/76, 7Ye24)

Kon, D. R. (0). High power laser systems in the far infrared and their application. IN: Sb 1, 13-14. (RZhRadiot, 9/76, 9Ye6)

Kulikov, Yu. N., G. G. Kiseleva, and V. A. Stepanov (0). Laser using vapors of chemical elements. Author's certificate USSR, no. 392879, issued 30 October 1975. (RZhRadiot, 7/76, 7Ye43)

Kuntsevich, B. F., and V. V. Churakov (3). Threshold relationships for molecular lasers with optical pumping. IAN B, no. 3, 1976, 103-107.

Ostapchenko, Ye. P., G. N. Toropkin, I. F. Usol'tsev, V. A. Stepanov, I. I. Kosarev, and A. I. Ryabov (0). Gas lasers. Pribory i sistemy upravleniya, no. 3, 1976, 17-20. (RZhF, 7/76, 7D1150)

Petru, F. (NS). Stable gas laser. Author's certificate Czechoslovakia, no. 153952, issued 15 June 1974. (RZhRadiot, 7/76, 7Ye23)

Suzdalov, I. I. (1). Possibility of obtaining stimulated emission in the near-cathode region of a glow discharge. IN: Sb 8, 15-17. (RZhF, 8/76, 8G504)

Yevseyev, I. V., and V. M. Yermachenko (118). Stability boundaries of a two-mode regime in a strong field. KE, no. 7, 1976, 1436-1441.

D. CHEMICAL LASERS

1. $F_2 + H_2(D_2)$

Agroskin, V. Ya., G. K. Vasil'yev, V. I. Kir'yanov, and V. L. Tal'roze (67). Parametric analysis of a pulsed H_2-F_2 laser. KE, no. 9, 1976, 1932-1940.

Bashkin, A. S., V. I. Igoshin, M. Sh. Kiknadze, A. N. Orayevskiy, and O. Ye. Porodnikov (0). Possibility of shortening the wavelength of a chemical HF laser. IN: Sb 1, 44. (RZhRadiot, 9/76, 9Ye65)

Belotserkovets, A. V., G. A. Kirillov, S. B. Kormer, G. G. Kochemasov, Yu. V. Kuratov, V. I. Mashendzhinov, Yu. V. Savin, E. A. Stankeyev, and V. D. Urlin (0). Chemical HF and DF lasers triggered by pulsed CO_2 laser radiation. IN: Sb 1, 36. (RZhRadiot, 9/76, 9Ye64)

Golovichev, V. I., and N. G. Preobrazhenskiy (0). Numerical analysis of the properties of a saturated medium in a turbulent diffusion-type HF chemical laser. IN: Sb 9, 166. (RZhMekh, 9/76, 9B335)

Guzov, I. P., S. B. Kormer, L. V. L'vov, V. T. Punin, M. V. Sinitsyn, E. A. Stankeyev, and V. D. Urlin (0). Measuring the recombination constant of atomic fluorine. KF, no. 9, 1976, 2043-2047.

Igoshin, V. I., V. Yu. Nikitin, and A. N. Orayevskiy (1). Triggering of a hydrogen fluoride chemical laser by e-beam. KE, no. 9, 1976, 2072-2074.

Khapov, Yu. I. (0). HF chemical laser operating at high pressure of the active medium. IN: Sb 5, 64-65. (RZhMekh, 8/76, 8B269)

Krutova, V. G., A. N. Orayevskiy, A. A. Stepanov, and V. A. Shcheglov (1). Numerical analysis of a c-w diffusion-type chemical laser at an arbitrary degree of molecular fluorine dissociation. KE, no. 9, 1976, 1919-1931.

Orayevskiy, A. N., V. P. Pimenov, A. A. Stepanov, and V. A. Shcheglov (1). Efficiency of a c-w diffusion-type chemical amplifier. KE, no. 9, 1976, 1896-1902.

2. $F + T_2$

Nikitin, A. I., and A. N. Orayevskiy (1). Measuring the reaction rate of $F+T_2 \rightarrow TF+T$ using a TF molecular chemical laser. Kratkiye soobshcheniya po fizike, no. 3, 1976, 3-7. (RZhF, 9/76, 9D1132)

3. Transfer

Bashkin, A. S., P. G. Grigor'yev, A. N. Orayevskiy, and O. Ye. Porodinkov (0). Quantum DF-CO₂ amplifier with high specific parameters. IN: Sb 1, 43. (RZhRadiot, 9/76, 9Ye17)

Basov, N. G., A. S. Bashkin, P. G. Grigor'yev, A. N. Orayevskiy, and O. Ye. Porodinkov (1). DF-CO₂ chemical quantum amplifier with high specific parameters. KE, no. 9, 1976, 2067-2070.

Dudkin, V. A., V. B. Librovich, and V. B. Rukhin (0). Study of a c-w chemical CO laser during combustion of a CS₂(N₂O)O₂ mixture. IN: Sb 1, 37. (RZhRadiot, 9/76, 9Ye66)

Gavrikov, V. F., A. P. Dronov, V. K. Orlov, and A. K. Piskunov (0). Interaction of vibrational-rotational diatomic molecules with triatomic. KE, no. 8, 1976, 1733-1742.

Gavrikov, V. F., A. P. Dronov, V. K. Orlov, and A. K. Piskunov (0). Near resonant V-V exchange of diatomic molecules with Raman levels of triatomic. KE, no. 8, 1976, 1831-1832.

Kulakov, L. V., A. I. Nikitin, and A. N. Orayevskiy (1). Study of the characteristics of a chemical laser with transfer of vibrational energy from DF molecules to CO₂ molecules. KE, no. 8, 1976, 1677-1688.

4. Photodissociative

Andreyeva, T. L., G. N. Birich, V. N. Sorokin, and I. I. Struk (1). Study of iodine photodissociation lasers using molecules containing bonds of an iodine atom with group V elements. Part 1. Experimental studies of an iodine laser using a (GF₃)₂AsI molecule. KE, no. 7, 1976, 1442-1456.

Basov, N. G., V. S. Zuyev, L. D. Mikheyev, I. V. Pogorel'skiy, D. B. Stavrovskiy, A. V. Startsev, and V. I. Yalovoy (0). XeO photodissociation laser. IN: Sb 1, 38. (RZhRadiot, 9/76, 9Ye74)

Danilov, O. B., N. A. Novoselov, V. V. Spiridonov, and N. P. Trofimov (0). Study of the field of a photodissociation laser with a plane resonator of a high effective length. Ois, v. 41, no. 1, 1976, 122-126.

Gulevich, V. M., V. S. Zuyev, V. A. Katulin, G. V. Mikhaylov, F. A. Nikolayev, V. Yu. Nosach, and A. L. Petrov (0). High-power short pulse optically pumped iodine laser. IN: Sb 1, 39. (RZhRadiot, 9/76, 9Ye28)

Gulevich, V. M., V. S. Zuyev, G. V. Mikhaylov, F. A. Nikolayev, and Yu. P. Sviridenko (0). Pump source for a high-power photodissociative laser. IN: Sb 1, 40. (RZhRadiot, 9/76, 9Ye160)

Kamrukov, A. S., G. N. Kashnikov, N. P. Kozlov, V. A. Malashchenko, V. K. Orlov, and Yu. S. Protasov (24). Study of an iodine laser optically excited by high current plasmadynamic discharges. KE, no. 9, 1976, 2023-2028.

Katulin, V. A., V. Yu. Nosach, and A. L. Petrov (1). Nanosecond iodine laser with energy of 200 joules. KE, no. 8, 1976, 1829-1831.

Tereshchenko, Ye. N., and N. Ya. Dodonova (0). Fluorescence of $CN(A^2\Pi-X^2\Sigma)$ radicals formed during photodissociation of HCN. Ois, v. 41, no. 3, 1976, 495-496.

Venkin, G. V., G. M. Krochik, M. Yu. Sklyarov, and Yu. G. Khronopulo (0). Possibility of developing a tunable two-photon iodine and oxygen laser. IN: Sb 1, 111. (RZhRadiot, 9/76, 9Ye29)

Zaleskiy, V. Yu., and A. M. Kokushkin (0). Tracing the chemical conversion of the active media of an iodine photodissociation laser. KE, no. 7, 1976, 1501-1508.

5. Miscellaneous

Basov, N. G., A. S. Bashkin, V. I. Igoshin, and A. N. Orayevskiy (1). Amplification of radiation by a fundamental harmonic and overtones in a chemical reaction process. KE, no. 9, 1976, 1967-1979.

Pekar, S. I., V. A. Kochelap, Yu. A. Kukibnyy, and I. A. Izmaylov (0). Theoretical study of photorecombination lasers. IN: Sb 1, 42. (RZhRadiot, 9/76, 9Ye75)

E. COMPONENTS

1. Resonators

a. Design and Performance

Anisimov, B. S., V. A. Matveyev, and G. N. Tarkhov (0). Laser (with flashlamps and active elements arranged in checkerboard fashion). Otkr izobr, no. 11, 1976, 322125.

Latush, Ye. L., G. N. Tolmachev, and V. Ya. Khasilev (325). Ceramic discharge tubes for cataphoretic lasers. PTE, no. 4, 1976, 227.

Lyubimov, V. V., and I. B. Orlova (0). Effect of the shape of the mirror edge on the selective properties of unstable resonators. OiS, v. 41, no. 2, 1976, 288-292.

Petru, F., J. Krsek, and B. Popela (NS). Laser resonator with an output beam free of parasitic light. Author's certificate Czechoslovakia, no. 153953, issued 15 June 1974. (RZhRadiot, 7/76, 7Ye144)

b. Mode Kinetics

Abrosimov, G. V., F. A. Korolev, P. V. Korolenko, A. I. Odintsov, N. E. Sarkarov, and V. F. Sharkov (0). Laser resonator with a spatially inhomogeneous energy output in a regime for selecting a single transverse mode. ZhPS, v. 25, no. 1, 1976, 52-58.

Zel'dovich, B. Ya., and D. B. Saakyan (1). Degree of spatial coherence in single-mode laser radiation. KE, no. 7, 1976, 1598-1601.

2. Pump Sources

Bashkin, A. S., P. G. Grigor'yev, A. N. Orayevskiy, and A. B. Skvortsov (1). High power UV radiation source with a duration of about 1 μ for pumping gas lasers. KE, no. 8, 1976, 1824-1826.

Bychkov, Yu. I., Yu. A. Kotov, V. F. Losev, and V. F. Tarasenko (78). Use of an oscillatory circuit with a current breaker for pumping lasers based on self-limited transitions. KE, no. 7, 1976, 1607-1608.

Levin, M. B., and A. S. Cherkasov (0). Quantitative determination for raising the pumping efficiency of a rhodamine 6G laser with flashlamp excitation using luminescing filters. Ois, v. 41, no. 3, 1976, 446-450.

3. Deflectors

Gusak, N. A., and V. Ye. Leparskiy (3). Device for deflecting an e-m beam. Author's certificate USSR, no. 470018, issued 17 November 1975. (RZhRadiot, 7/76, 7Ye192)

Kuzin, A. G., N. S. Mirgorodskiy, V. P. Pikarnikov, and V. V. Soroka (277). Piezoelectric optical beam deflectors. Part 1. Theory of bimorphous deflectors and its experimental verification. ZhTF, no. 9, 1976, 1935-1939.

Kuzin, A. G., N. S. Mirgorodskiy, V. P. Pikarnikov, and V. V. Soroka (277). Piezoelectric optical beam deflectors. Part 2. Study of the basic characteristics of bimorphous deflectors. ZhTF, no. 9, 1976, 1940-1944.

4. Filters

Godlevskiy, A. P., V. P. Lopasov, M. M. Makogon, and A. M. Solodov (0). Controlling the radiation regime of solid state lasers by means of interference-polarization filters. IN: Sb 10, 143-156. (RZhF, 9/76, 9D1106)

5. Detectors

Alfyorov, Zh. I., V. G. Agafonov, D. Z. Garbuzov, N. Yu. Davidyuk, V. R. Larionov, and V. B. Khalfin (4). Multipass heterostructures. Part 2. External quantum yield of radiation. FTP, no. 8, 1976, 1497-1506.

Altayskiy, Yu. M., and V. S. Kiselev (106). Spectral characteristics of cubic silicon carbide photodetectors. FTP, no. 9, 1976, 1782-1783.

Baskakov, A. N., A. V. Kozar', and Yu. A. Pirogov (0). Noise characteristics of optical detectors with an SHF bias. IVUZ Radioelektr, no. 9, 1976.

Bergmann, Ya. V., B. V. Izvozchikov, V. I. Korol'kov, N. N. Mursakulov, L. D. Pramatarova, and D. N. Tret'yakov (4). Study of photoelectric properties of InAs-GaSb heterojunctions. FTP, no. 8, 1976, 1565-1567.

Dolginov, L. M., P. G. Yeliseyev, M. G. Mil'vidskiy, B. N. Sverdlov, V. M. Chupakhina, and Ye. G. Shevchenko (95). Photoelectric properties of heterostructures based on a four-component solution of $\text{Ga}_{x-1-x} \text{In}_{1-x} \text{P}_{1-y} \text{As}_y$ with high quantum efficiency at 1060 nm. ZhTF, no. 14, 1976, 631-633.

Dovletmuradov, Ch., K. Ovezov, V. D. Prochukhan, Yu. V. Rud', and M. Serginov (4,55). Photoelectric properties and possible practical applications of CdSiAs₂ homodiodes. FTP, no. 9, 1976, 1659-1663.

Gertsenshteyn, M. Ye., and V. V. Kobzev (0). Heat detector with laser readout of temperature. RiE, no. 9, 1976, 1936-1940.

Gos'kov, P. I., and N. V. Zamyatin (0). Fast-response device for determining the inhomogeneity of photodetector sensitivity. IT, no. 9, 1976, 37.

Govorun, Ye. Ya., V. M. Kuz'michev, and M. P. Perepechay (0). Dynamics of thermal processes in fine-wire bolometric transducers of laser radiation. IN: Sb 11, 105-110. (RZhF, 7/76, 7D1234)

Khalfin, V. B., D. Z. Garbuzov, and N. Yu. Davidyuk (4). Multipass heterostructures. Part 1. Spectral and angular characteristics of radiation. FTP, no. 8, 1976, 1490-1496.

Kir'yashkina, Z. I., A. G. Rokakh, V. P. Malkov, and N. M. Tsukerman (278). Inductive and photoinductive effects in heterojunctions based on photoconductive cadmium selenide. ZhTF P, no. 14, 1976, 634-637.

Krasovskiy, V. M., L. S. Kremenchugskiy, A. K. Semenov, A. Ya. Shul'ga, and V. A. Shcheredin (5). Matrix pyroelectric detector for studying lasers. PTE, no. 4, 1976, 216-218.

Kurbatov, V. A., and N. A. Penin (1). Modulation method for measuring the heterodyne characteristics of photodetectors. KE, no. 9, 1976, 1909-1913.

Losev, V. V., B. M. Orlov, A. V. Sokol'nikov, and I. G. Yatsyuk (119). Photodetectors with internal gain in the visible and ultraviolet region of the spectrum. IN: Tr 3, 52-57. (RZhF, 9/76, 9D1295)

Mitsenko, I. D., and B. V. Galun (7). Detecting the envelope of an optical flash in the presence of fluctuating background exposure. OMP, no. 8, 1976, 6.

Rizakhanov, M. A. (88). Calculating the relative intensity of induced impurity photoconductivity in nonactivated films of a CdS-CdSe system, due to donor-acceptor vapors. FTP, no. 9, 1976, 1651-1655.

Shemshedinov, R. B., and F. I. Khaytun (7). Noise rejection of a detector of differently shaped optical pulsed signals under optimal filtration. OMP, no. 7, 1976, 48-50.

Trishenkov, M. A., A. S. Petrov, and Yu. S. Mikheyev (0). Signal/noise ratio in photodetector matrix devices with internal feedback, operating in a cumulative regime. RiE, no. 9, 1976, 1951-1959.

Vasilevskiy, D. L., and G. G. Chemeresyuk (240). Effect of surface recombination on the photoelectric properties of a CdS-Cu₂S heterojunction. FTP, no. 9, 1976, 1757-1759.

Vilisov, A. A., and V. P. Voronkov (47). Dual-coordinate photocell with an axial photoelectric effect. PTE, no. 4, 1976, 214-216.

Yevtikhiyev, N. N., I. N. Abrosimov, A. I. Polev, and A. A. Pastushkov (0). Detector of c-w laser radiation. IN: Sb 12, 156-160. (RZhF, 7/76, 7D1231)

6. Modulators

Gaydash, V. A., V. A. Yeroshenko, S. G. Lapin, V. I. Shemyakin, and V. K. Shurygin (0). Passive switch for 1.315 μ radiation. KE, no. 7, 1976, 1701-1704.

Melishchuk, I. S., and V. D. Tron'ko (0). High-frequency Faraday optical modulators using ferrogarnets. OIS, v. 41, no. 3, 1976, 475-481.

Milinkevich, A. V., V. A. Savva, and A. M. Samson (0). High-frequency self-modulation of radiation in lasers with inertial feedback. ZhPS, v. 25, no. 1, 1976, 43-51.

Ovchinnikov, Yu. N., and V. M. Rozhkov (390). Controlled mechanical modulator. IVUZ Priboro, no. 8, 1976, 103-106.

Sterian, P. E. (NS). Electrooptic system for modulating a laser beam. Rev. transp. si telecomun., v. 2, no. 4, 1975, 315-320. (RZhF, 8/76, 8D1249)

Yermolayev, V. M., F. A. Logachev, N. M. Lyndin, B. B. Meshkov, A. M. Prokhorov, V. A. Sychugov, and G. P. Shipulo (1). Diffusion waveguides in LiNbO_3 and electrooptic modulation of light in them. KE, no. 9, 1976, 2074-2076.

F. NONLINEAR OPTICS

1. Frequency Conversion

Arutyunyan, V. M., E. G. Kanetsyan, and N. V. Shakhnazaryan (37). Possibility of generating ultraviolet radiation in alkali metal vapors under two-photon optical pumping. IAN Arm, no. 3, 1976, 234-237.

Dmitriyev, V. G., and V. A. Zenkin (0). Second harmonic amplification and generation in an active nonlinear medium. KE, no. 8, 1976, 1811-1813.

Klement'yev, V. M., Yu. A. Matyugin, and V. P. Chebotayev (10). Frequency shift of 88.37 THz (3.39 μ), 125.13 THz (2.39 μ) and 260.1 THz (1.15 μ) in a gas, and the generation of c-w coherent radiation with a sum frequency of 473.6 THz (0.63 μ). ZhETF P, v. 24, no. 1, 1976, 8-12.

Orlov, R. Yu., I. B. Skidan, Z. A. Tagiyev, L. S. Telegin, and A. S. Chirkin (2). Spectral characteristics of frequency converters of high power laser pulses. ZhTF P, no. 13, 1976, 619-623.

Popov, A. K., and V. P. Timofeyev (0). Scheme for converting CO₂ laser radiation to the 5134 Å region based on a resonant nonlinear shift with Nd laser radiation in atomic cesium vapor. IN: Sb 1, 109. (RZhRadiot, 9/76, 9Ye5)

Shigorin, V. D., and G. P. Shipulo (1). Controlled phase synchronization during second harmonic generation in biaxial crystals. KE, no. 9, 1976, 2048-2051.

Stolyarov, A. D. (0). Change in the statistical characteristics of radiation during harmonic generation. ZhPS, v. 25, no. 2, 1976, 236-240.

Volosov, V. D., and Ye. V. Goryachkina (0). Compensation of synchronism dispersion while generating harmonics of non-monochromatic radiation. Part 1. Frequency doubling of Nd:glass laser radiation in a free running regime. KE, no. 7, 1976, 1577-1583.

2. Parametric Processes

Al'terkop, B. A., A. S. Volokitin, and V. P. Tarakanov (74). Nonlinear stage of parametric interaction of waves in an active medium. ZhETF, v. 71, no. 2, 1976, 547-556.

Babin, A. A., Yu. N. Belyayev, M. M. Sushchik, V. M. Fortus, and G. I. Freydmán (8). Study of parametric generators of light with noncollinear interaction. KE, no. 8, 1976, 1755-1770.

Babin, A. A., N. N. Belyayeva, Yu. N. Belyayev, and G. I. Freydmán (8). Parametric generation of coherent radiation in a spatially noncoherent pumping field. ZhETF, v. 71, no. 1, 1976, 97-110.

Baranova, N. B., and B. Ya. Zel'dovich (1). Parametric scattering of light by molecules in crystals with no symmetry center. ZhETF, v. 71, no. 2, 1976, 727-737.

Kovrigin, A. I. (2). Parametric generators of light for selective action on matter. KE, no. 8, 1976, 1854-1856.

Piskarskas, A. S. (49). Picosecond spectroscopy based on parametric amplification and generation of light. KE, no. 8, 1976, 1856-1858.

3. Stimulated Scattering

a. Raman

Andreyev, R. B., Ya. S. Bobovich, A. V. Bortkevich, V. D. Volosov, and M. Ya. Tsenter (0). Raman scattering spectra in rhodamine 6G molecules in strong and weak resonance fields. ZhPS, v. 25, no. 2, 1976, 294-296.

Gorbunov, L. M., V. I. Domrin, and R. R. Ramazashvili (1). Effect of stimulated Raman scattering on the penetration of an e-m wave into an inhomogeneous plasma. ZhTF P, no. 15, 1976, 690-695.

Grasyuk, A. Z. (1). High-power tunable IR Raman lasers and their application. KE, no. 8, 1976, 1853-1854.

Grasyuk, A. Z., I. G. Zubarev, and S. I. Mikhaylov (1). Measuring the dispersion power of group velocities of light by a method of stimulated Raman scattering in a field of wideband pumping. Kratkiye soobshcheniya po fizike, no. 2, 1976, 3-7. (RZhF, 8/76, 8D1100)

Makhviladze, T. M., and M. Ye. Sarychev (0). Soliton regimes of stimulated Raman scattering. ZhETF, v. 71, no. 3, 1976.

Rezayev, N. I., and M. B. Tabibi (0). Effect of complexing in solutions on the stimulated Raman scattering spectra. IN: Sb 13, 141-149. (RZhF, 9/76, 9D961)

Rezayev, N. I., and M. B. Tabibi (0). Study of the spectral composition of stimulated Raman scattering in pyridine in solutions with carboxylic acid. IVUZ Fiz, no. 9, 1976, 69.

b. Brillouin

Ragul'skiy, V. V. (1). Stimulated Brillouin scattering lasers. IN: Tr 4, 3-48.

c. Miscellaneous

Zel'dovich, B. Ya., and N. V. Morachevskiy (1). Faraday effect on stimulated back-scattering of light. KE, no. 9, 1976, 2070-2071.

4. Acoustic Interaction

Bogdanov, S. V., and D. V. Sheloput (0). Materials for acoustooptic devices. IN: Sb 14, 46-67. (RZhF, 9/76, 9D1317)

Karabutov, A. A., Ye. A. Lapshin, and O. V. Rudenko (2). Interaction of optical radiation with sound under conditions of acoustic nonlinearity. ZhETF, v. 71, no. 1, 1976, 111-121.

Skrebov, V. N., and A. I. Eykhval'd (12). Effect of inhomogeneity in the heating of a gas by a pulsed discharge on acoustic vibrations. ZhTF, no. 9, 1976, 1994-1996.

Synak, R. (NS). Piezoelectric materials for acoustooptic light beam deflectors. Elektron. techn. obliczen. Nowosci, v. 14, no. 3, 1975, 65-89. (RZhF, 7/76, 7D1557)

Vizen, F. L., V. N. Maslennikov, and V. M. Zakharov (140). Acoustooptic devices for information processing. IN: Tr 5, 58-67. (RZhF, 7/76, 7D1563)

5. Birefringence

Shaldin, Yu. V., and D. A. Belogurov (0). Measuring induced birefringence in crystals in the presence of electroabsorption. OiS, v. 41, no. 3, 1976, 463-465.

6. General Theory

Guseva, T. V., and E. Ye. Fradkin (0). Nonlinear diffraction effects in lasers. IN: Sb 1, 33. (RZhRadiot, 9/76, 9Ye128)

Kaplan, A. Ye. (388). Hysteresis reflection and refraction at a nonlinear boundary: new class of effects in nonlinear optics. ZhETF P, v. 24, no. 3, 1976, 132-137.

Kask, N. Ye., V. V. Radchenko, and G. M. Fedorov (98). Nonstationary thermal self-focusing and fusion in optical glass. ZhTF, no. 8, 1976, 1766-1768.

Khilo, N. A., and A. N. Serdyukov (0). Passage of an electromagnetic wave through an optically active layer in a magnetic field. ZhPS, v. 25, no. 1, 1976, 169-171.

Kovarskiy, V. A., N. F. Perel'man, and S. S. Todirashku (44). Evidence of a multimode structure of radiation in multiphoton resonance absorption. KE, no. 8, 1976, 1805-1808.

Kyzylasov, Yu. I. (0). Self-distortion of high power laser radiation in silicate glasses. IN: Sb 1, 290. (RZhRadiot, 9/76, 9Ye109)

Minogin, V. G. (72). Shape of the resonance line of two-photon absorption, allowing for the square-law Doppler effect. KE, no. 9, 1976, 2061-2063.

Shaldin, Yu. V., and D. A. Belogurov (13). Determining nonlinear (square-law) optical reproducibility in GaAs and GaP according to data of electrooptic measurements. KE, no. 8, 1976, 1660-1666.

Yelyutin, P. V. (2). Effect of field fluctuations on multiphoton ionization. ZhTF P, no. 13, 1976, 581-583.

G. SPECTROSCOPY OF LASER MATERIALS

Akhumyan, A. A., K. N. Kocharyan, R. M. Martirosyan, and A. A. Mirzakhanyan (264). Temperature dependence of the parameters of an Fe³⁺ ion spin Hamiltonian in rutile. FTT, no. 7, 1976, 2073-2075.

Dudarev, I. A., and A. P. Klishchenko (0). Polarization fluorescence spectra of complex molecules under two-photon excitation. IN: Sb 15, 60-61. (RZhKh, 19AB, 7/76, 7B173)

Gorobets, B. S., A. A. Mikhalev, and M. A. Nauchitel' (0). Rare earths in the luminescence spectra of natural scheelites. ZhPS, v. 25, no. 1, 1976, 157-159.

Levshin, L. V., T. D. Slavnova, and V. I. Yuzhakov (0). Photoenergy of associated rhodamine dye molecules. ZhPS, v. 25, no. 1, 1976, 89-93.

Pasternak, L. B., Yu. L. Remigaylo, and B. K. Sevast'yanov (0). Absorption lines caused by ${}^2E \rightarrow {}^2T_2$ transitions in ruby. YAG:Cr³⁺ and MgAl₂O₄:Cr³⁺. ZhPS, v. 25, no. 1, 1976, 110-117.

Voloshin, V. A., V. P. Lutsenko, and A. M. Prudnikov (0). Change in the energy state in the ground level of the 4f³ configuration from the effect of pressure. ZhPS, v. 25, no. 3, 1976, 541.

H. ULTRASHORT PULSE GENERATION

Fenic, C. (NS). Evolution of a laser pulse in an active amplifying medium. Studii si cercetari de fizica, v. 28, no. 1, 1976, 69-86. (RZhF, 9/76, 9D996)

Lugovoy, V. N., and V. N. Strel'tsov (1). Possibility of generating femtosecond pulses during stimulated Raman scattering of radiation in optical resonators. KE, no. 8, 1976, 1793-1799.

Petukhov, V. A., and A. I. Krymova (1). Effect of relaxation time in a passive switch on the duration of ultrashort pulses in an Nd:glass laser. KE, no. 9, 1976, 1877-1881.

Zherikhin, A. N., Yu. A. Matveyets, and S. V. Chekalin (72).
Limitation of brightness due to self-focusing during amplification
of an ultrashort pulse in Nd:glass and in YAG. KE, no. 7, 1976,
1585-1590.

J. CRYSTAL GROWING

Sulovsky, J., J. Kvapil, Jos. Kvapil, B. Perner, V. Kment,
V. Dolejs, and V. Smisek (NS). Method for obtaining ruby single
crystals for lasers. Author's certificate Czechoslovakia,
no. 153626, issued 15 June 1974. (RZhKh, 19M, 10/76, 10M177)

K. THEORETICAL ASPECTS OF ADVANCED LASERS

Gudzenko, L. I., I. S. Slesarev, and S. I. Yakovlenko (0).
Problems in developing atomic reactor-lasers. IN: Sb 1, 16.
(RZhRadiot, 9/76, 9Ye26)

Ishchenko, V. N., V. N. Lisitsyn, and A. M. Razhev (10).
High-power superluminescence in ArF, KrF and XeF excimers in
an electric discharge. ZhTF P, no. 18, 1976, 839-842.

L. GENERAL LASER THEORY

Anan'yev, Yu. A., L. V. Koval'chuk, and V. Ye. Sherstobitov (0).
Calculating the energy characteristics of multipass telescopic
amplifiers. KE, no. 7, 1976, 1412-1416.

Bogdanova, M. V., T. M. Il'inova, and R. V. Khokhlov (2).
Interaction of an optical pulse with a multilevel molecular system.
KE, no. 9, 1976, 1887-1895.

Delone, N. B., B. A. Zon, V. P. Kraynov, and V. A. Khodovoy (0). Nonresonant perturbation of an atomic spectrum in a strong optical field. UFN, v. 120, no. 1, 1976, 3-54.

Kruzhilin, Yu. I. (0). Shaping a laser pulse in an amplifying system with a variable spectrum of the output signal. KE, no. 7, 1976, 1564-1569.

Kudrya, V. P., T. M. Makhviladze, I. G. Sinitsyn, and A. A. Shelepin (0). Controlling laser radiation. IN: Sb 1, 73. (RZhRadiot, 9/76, 9Yel46)

Oseledchik, Yu. S. (0). Relaxation kinetics in a Gaussian noise field. ZhPS, v. 25, no. 2, 1976, 323-328.

Sviridov, M. V., and V. T. Skorik (118). Propagation of spontaneous emission in the medium of an optical amplifier. KE, no. 7, 1976, 1417-1422.

Voron'ko, Yu. K., T. G. Mamedov, V. V. Osiko, A. M. Prokhorov, V. P. Sakun, and I. A. Shcherbakov (1). Study of the nature of radiationless relaxation of excitation energy in condensed media with a high activator content. ZhETF, v. 71, no. 2, 1976, 478-496.

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

Berezin, Yu. D., E. N. Goncharuk, V. P. Zhokhov, R. E. Kovach, V. R. Muratov, A. I. Semenov, and A. I. Stepanov (0). Determining the limit of the permissible level of single-pulse IR laser radiation from the point of view of safety and industrial health. KE, no. 9, 1976, 2080-2083.

Kashuba, V. A. (381). Problems of labor hygiene while using neodymium lasers in the production of watches. Gigiyena i sanitariya, no. 8, 1976, 29-32.

Kirillov, A. I., A. S. Naumov, V. F. Morskov, N. F. Torshina, and N. D. Ustinov (0). Problem of dosimetry of laser radiation. KE, no. 7, 1976, 1394-1402.

Mirovitskiy, D. I., V. F. Dubrovin, I. F. Budagyan, V. N. Solov'yev, V. M. Tsvetayev, and A. V. Goncharov (0). Integrated holographic instruments for endoscopy. IN: Sb 12, 161-172. (RZhRadiot, 7/76, 7Ye431)

Sukhov, L. T., G. Ye. Zolotukhin, and S. M. Zyabkina (0). Atomic absorption method for analyzing biological specimens with laser atomization. ZhPS, v. 25, no. 2, 1976, 199-203.

Titov, A. N., D. I. Mirovitskiy, N. N. Antonova, and A. S. Goryainov (0). Holographic methods for recognizing biomedical signals. IN: Sb 16, 56-63. (RZhF, 9/76, 9D1166)

B. COMMUNICATIONS

1. Beam Propagation in the Atmosphere

Abramyan, A. S. (37). Determining the structural constant of the coefficient of refraction in air, C_n , by means of a meter for measuring the mean rectified value of intensity fluctuations. IN: Tr 6, 48-52. (RZhF, 7/76, 7D1015)

Alexandrescu, R., N. Comaniciu, V. Draganescu, D. Dumitras, and C. Timus (NS). Pressure dependent absorption in CO_2 and BCl_3 for some vibration-rotation lines of a $10.6\mu\text{CO}_2$ laser. Revue roumaine de physique, v. 21, no. 2, 1976, 161-166. (RZhF, 9/76, 9D1131)

Bekhtin, Yu. I. (15). Experimental study of the gradient of refractive index of a medium in the propagation region of CO_2 laser radiation in an artificial fog chamber. FAiO, no. 7, 1976, 726-731.

Belen'kiy, M. S., A. A. Makarov, V. L. Mironov, and V. V. Pokasov (78). Measuring the altitude dependence of a structural parameter of the atmosphere by means of a laser. KE, no. 9, 1976, 2051-2054.

Gasparyan, S. S., and R. A. Kazaryan (59). Experiments on optical mixing in a turbulent atmosphere. KE, no. 9, 1976, 1985-1990.

Kon, A. I., V. L. Mironov, and V. V. Nosov (78). Dispersion of optical beam displacements in the atmosphere under conditions of strong intensity fluctuations. IVUZ Radiofiz, no. 7, 1976, 1015-1019.

Kovalev, V. A. (207). Analysis of methods for processing lidar signals in measuring the transparency of the atmosphere.

IN: Tr 7, 121-139. (RZhGeofiz, 9/76, 9B241)

Odishariya, M. A., and V. A. Chikhladze (62). Experimental equipment for measuring the attenuation of laser radiation intensity in a cloud chamber. IN: Tr 8, 76-82. (RZhGeofiz, 8/76, 8B95)

Pozhidayev, V. N., and G. M. Strel'kov (0). Effectiveness of CO₂ laser radiation on an aqueous aerosol. RiE, no. 7, 1976, 1361-1368.

Serbin, A. I., A. M. Brounshteyn, and K. V. Kazakova (207). Method for measuring the attenuation of CO₂ laser radiation over horizontal paths by means of the NKAU-1 infrared atmospheric device. IN: Tr 7, 187-193. (RZhGeofiz, 9/76, 9B183)

Vanin, N. V., A. V. Migulin, and S. Yu. Rybakov (2). Lidar for studying the atmosphere by various methods. KE, no. 9, 1976, 2029-2034.

Vasil'yev, O. B., and V. V. Fedorov (0). Vertical profile of spectral optical parameters of a free atmosphere over desert. IN: Sb 17, 33-75. (RZhGeofiz, 9/76, 9B220)

Zel'manovich, I. L. (0). Lidar for determining the meteorological range of visibility. FAiO, no. 7, 1976, 774-776.

2. Beam Propagation in Liquids

Alexandrescu, R., N. Comaniciu, V. Draganescu, D. Dumitras, D. Dutu, and C. Timus (NS). Absorption of 10.6 μ radiation in xylene, carbon tetrachloride and boron trifluoride. Studii si cercetari de fizica, v. 28, no. 2, 1976, 189-195. (RZhF, 9/76, 9D1130)

Bazanov, V. A. (0). Some statistical characteristics of an optical beam in turbulent free convection. IN: Sb 18, 214-220. (RZhF, 9/76, 9D818)

Botygina, N. N., V. I. Bukatyy, and S. S. Khmelevtsov (78). Study of the transparency of water in a laser radiation field. IVUZ Fiz, no. 7, 1976, 29-32

Bozhkov, A. I., F. V. Bunkin, and L. L. Gyrdev (1). Effect of disturbance of a liquid surface on the sonic field excited in it by laser radiation with modulated intensity. KE, no. 7, 1976, 1494-1500.

Pichikyan, N. A., A. S. Sonin, and N. B. Titova (141). Selective scattering of light by pseudocapsulated films of cholesteric liquid crystals. KE, no. 7, 1976, 1614-1616.

Velichkina, T. S., A. V. Gurevich, T. G. Chernevich, O. A. Shustin, and I. A. Yakovlev (0). Propagation of a coherent optical beam through a diffusible liquid, and determination of the coefficient of diffusion. ZhETF P, v. 24, no. 3, 1976, 174-179.

Vlasov, Yu. N., V. I. Fedonov, A. D. Strogankov, and Ye. I. Kuznetsov (0). Studying the metrological characteristics of hydrophysical converters by means of thermal markers. Metrologiya, no. 8, 1976, 42-47.

3. Theory of Propagation

Babenko, V. A., A. P. Prishivalko, and S. T. Leyko (0). Distribution of energy within radially inhomogeneous nonabsorbing particles irradiated by a collimated beam of light. ZhPS, v. 25, no. 1, 1976, 123-128.

Kielich, S. (NS). Nonlinear scattering of radiation due to the electric or optical orientation of anisotropic molecules.

Fiz. dielektr. i radiospektr. Pr. Komis. mat. -przyrodn. PTPN, v. 7, no. 2, 1975, 145-185. (RZhF, 7/76, 7D1065)

Malakhov, A. N., and A. I. Saichev (0). The Lagrange and Euler description of the statistical properties of optical waves.

IVUZ Radiofiz, no. 9, 1976.

Ovchinnikov, V. M., I. V. Rogova, and G. I. Shteyn (0).

Diffraction of optical beams by a slit diaphragm with variable edge transmission. ZhTF P, no. 14, 1976, 656-660.

Prokhorov, A. M., A. A. Spikhal'skiy, V. A. Sychugov, and G. P. Shipulo (1). Reflection and radiation of H and E waves in a corrugated section of a diffusion waveguide. KE, no. 9, 1976, 1941-1947.

4. Systems

Antropov, Ye. T., and V. N. Aref'yev (1). System for spatial angular scanning. Author's certificate USSR, no. 494720, issued 1 March 1976. (RZhRadiot, 9/76, 9Ye148)

Arakelyan, S. B., and Yu. M. Gasparyan (224). Some problems in neuristor circuits. IN: Tr 9, 62-69. (RZhRadiot, 9/76, 9Ye206)

Belanov, A. S., Ye. M. Dianov, G. I. Yezhov, and A. M. Prokhorov (1). Propagation of natural waves in multilayer optical waveguides. Part 2. Energy characteristics. KE, no. 8, 1976, 1689-1700.

Bykovskiy, Yu. A., A. V. Makovkin, V. I. Molochev, V. L. Smirnov, and A. V. Shmal'ko (0). Coupling of semiconductor laser radiation to thin film and fiber waveguides. OIS, v. 41, no. 1, 1976, 143-145.

Chekhlova, T. K. (14). Thin film lasers using a periodic structure manufactured by chemical etching. IN: Sb 3, 241. (RZhKh, 19AB, 12/76, 12A33)

Dubinin, A. A. (135). Some problems in constructing devices for synchronizing lightguide communication line repeaters. IN: Tr 10, 107-114. (RZhRadiot, 7/76, 7Ye197)

Dumitrica, A. (NS). An ADP low voltage modulator for optical communication. Revue roumaine de physique, v. 20, no. 9, 1975, 995-1000. (RZhF, 7/76, 7D1524)

German, A. I., A. P. Tikhonov, and A. Ye. Tyabotov (394). Field study data on the degree of polarization of laser radiation reflected from a water surface, as a function of sea roughness. IN: Tr 11, 76-81. (RZhGeofiz, 9/76, 9V46)

Khramtsov, Yu. I. (0). Calculating the effect of light beam shifts in multibeam methods of transmission. IN: Sb 19, 102-105. (RZhGeofiz, 8/76, 8B329)

Kolaczek, B. (NS). Laser ranging of the moon and related studies on lunar orbit and physical libration of the moon. Postepy astronomii, no. 4, 1975, 271-279.

Kolosov, M. A., V. N. Pozhidayev, and L. V. Fedorova (0). Propagation of ultraviolet radiation in the earth's atmosphere and the possibility of developing optical communication lines in the UV range. RiE, no. 8, 1976, 1595-1601.

Kravchenko, V. F., I. S. Fal'kovich, and I. S. Oleynik (0). Accuracy of evaluating the power in a weak optical flux pulse. IVUZ Radioelektr, no. 7, 1976, 100-102.

Makkaveyev, V. I., and Ye. R. Milyutin (0). Effect of a turbulent atmosphere on the noise rejection of an optical communications system with narrowband frequency-modulated subcarriers. IN: Tr 12, 72-80. (RZhRadiot, 8/76, 8Ye157)

Mit'kovets, N. N. (0). Studies of the SM-3 DME. GiK, no. 3, 1976, 15-20.

Movsesyan, R. A., and V. A. Papyan (0). Some characteristics of SHF lithium niobate light modulators for electrooptic DME's. GiK, no. 3, 1976, 20-22

The OLZ-M small-scale optical delay line. KE, no. 8, 1976, 1861.

Pashinin, P. P. (0). Laser systems with a panchromatic optical conversion. IN: Sb 1, 47. (RZhRadiot, 9/76, 9Ye159)

Pekar, V. S. (0). Kinetics of a plane waveguide laser with a translucent wall, and its study by means of external pumping. ZhTF, no. 9, 1976, 1879-1887.

Pon'kin, V. A., V. G. Radziyevskiy, and L. Z. Semenyachenko (0). Possibilities of a holographic method for modeling a process of radar tracking. IN: Sb 16, 91-102. (RZhF, 9/76, 9D1169)

Rez, I. S. (0). Using crystallochemistry as a basis in searching for effective materials for the operating elements in optical information processing systems. IN: Sb 14, 10-45. (RZhF, 9/76, 9D1315)

Rivlin, L. A. (141). Optical transmission line with quasicompensated losses. KE, no. 7, 1976, 1611-1613.

Shchelkunov, K. N., and Ye. S. Barbanel' (0). Noise rejection of optical communication lines with discrete modulation. IVUZ Radioelektr, no. 7, 1976, 82-86.

Skibin, S. A., N. B. Fedorycheva, and Yu. A. Pshentsov (317). Using a diffraction method to control the geometric parameters of a tubular fiber. IN: Tr 13, 77-81. (RZhRadiot, 9/76, 9Ye177)

Smolenskiy, G. A., E. P. Stinser, M. A. Garsia, A. N. Ageyev, S. A. Mironov, O. N. Dikarev, A. V. Antonov, Ye. S. Sher, and V. L. Ivashintsova (4). Independent conversion of optical modes in a gyromagnetic film lightguide. ZhTF P, no. 14, 1976, 641-644.

Sterian, P. E., M. D. Vartosu, and A. G. Podoleanu (NS). Some characteristics of laser communication channels using an electrooptic modulator. Electrotehn., electron. si automat., v. 24, no. 1, 1976, 31-37. (RZhF, 9/76, 9D1134)

Sushkova, L. T., M. Z. Korytnyy, and V. I. Rakov (0). Electronic modeling of an optical communications channel. IN: Sb 20, 40-45. (RZhRadiot, 7/76, 7Ye218)

Symera, T. P., P. A. Uusmaa, Kh. V. Khinrikus, and Yu. E. Mal'sub (255). Probability of errors in an atmospheric laser communications line. KE, no. 7, 1976, 1403-1411.

Wrobel, D., and H. Rudolf (NS). Light from the test tube. Report on research work on and with lasers. Part 2. Wissenschaft und Fortschritt, no. 12, 1975, 537-544

Zolotov, Ye. M., V. M. Pelekhatty, and A. M. Prokhorov (1). Radiation from the tapered edge of an optical waveguide. KE, no. 7, 1976, 1478-1482.

Zolotov, Ye. M., V. A. Kiselev, A. M. Prokhorov, and Ye. A. Shcherbakov (1). Determining the parameters of diffuse optical microwaveguides. KE, no. 8, 1976, 1672-1676.

C. COMPUTER TECHNOLOGY

Arseyev, L. I. (0). Possibility of using holography to construct electrooptic digital operators. Part 1. Realization of some types of logical operations based on a holographic method. IN: Sb 21, 60-70. (RZhRadiot, 7/76, 7Ye427)

Arseyev, L. I. (0). Possibility of using holography to construct electrooptic digital operators. Part 2. A principle for constructing a holographic computer in a residual class system. IN: Sb 21, 70-83. (RZhRadiot, 7/76, 7Ye428)

Bulan'kov, N. I., V. D. Zhuravov, A. F. Plotnikov, V. N. Seleznev, D. N. Tokarchuk, and G. P. Ferchev (1). Optically controlled memory based on a metal-nitrite-oxide-semiconductor structure with a GaAs substrate. KE, no. 9, 1976, 2078-2080.

Jozanis, M. (NS). Regime for storing a charge in photodetectors with p-n junctions, and its use in a phototransistor detector matrix used in holographic memories. Elektron. techn. obliczen. Nowosci, v. 14, no. 4, 1975, 87-108. (RZhRadiot, 7/76, 7Ye422)

Novikov, G. P. (0). Holographic industrial data system and its use in a design department. IN: Sb 22, 11-15. (RZhRadiot, 8/76, 8Ye298)

Novikov, G. P., and V. A. Kovalenko (0). Device for line readout of binary information files with microholographic matrices. IN: Sb 22, 15-17. (RZhRadiot, 8/76, 8Ye299)

Plotnikov, A. F., A. N. Rodionov, A. A. Samokhvalov, and V. N. Seleznev (1). Holographic recording of information on EuO films. KE, no. 9, 1976, 2076-2078.

Ryzko, J., and A. Sikorski (NS). Review of available materials for holographic memory systems. Elektron. techn. obliczen. Nowosci, v. 14, no. 4, 1975, 40-77. (RZhF, 7/76, 7D1291)

Sikorski, A. (NS). Electrooptic crystals for holographic memory elements in computers. Elektron. techn. obliczen. Nowosci, v. 14, no. 4, 1975, 34-39. (RZhF, 7/76, 7D1294)

Synak, R. (NS). Optical deflectors and their use in holographic memories. Elektron. techn. obliczen. Nowosci, v. 14, no. 3, 1975, 19-47. (RZhRadiot, 7/76, 7Ye426)

Tsvetayev, K. P. (0). Determining the resolving power in character synthesizing in a laser beam system for recording discrete information with a holographic memory. IN: Sb 16, 133-143. (RZhF, 9/76, 9D1171)

Wojtowicz, B. (NS). Electrooptic system for deflecting a light beam for a holographic memory system. Elektron. techn. obliczen. Nowosci, v. 14, no. 3, 1975, 48-51. (RZhF, 7/76, 7D1289)

Wojtowicz, B. (NS). Two-coordinate light modulator for a holographic memory. Elektron. techn. obliczen. Nowosci, v. 14, no. 4, 1975, 3-33. (RZhF, 7/76, 7D1293)

Wojtowicz, B. (NS). Semiconductor detector matrix in a holographic memory. Elektron. techn. obliczen. Nowosci, v. 14, no. 4, 1975, 78-86. (RZhRadiot, 7/76, 7Ye425)

Wrzeszcz, Z. (NS). Use of electrooptic crystals and liquid crystals for entering information into a holographic memory system. Elektron. techn. obliczen. Nowosci, v. 14, no. 3, 1975, 52-64. (RZhF, 7/76, 7D1290)

D. HOLOGRAPHY

Avramenko, R. F., and V. I. Nikolayeva (0). Holographic properties of hyperspheres. IN: Sb 16, 64-75. (RZhRadiot, 8/76, 8Ye313)

Ayrapetyan, V. S., I. B. Barkan, and Ye. V. Pestryakov (0). Time dependence of the photorefraction effect in gold-doped lithium niobate. ZhTF P, no. 17, 1976, 802.

Bakut, P. A., K. N. Sviridov, and I. N. Troitskiy (0). Analyzing the quality of holograms obtained in pulsed illumination through a random optically inhomogeneous medium. IN: Sb 12, 25-31. (RZhF, 7/76, 7D1259)

Bakut, P. A., K. N. Sviridov, and I. N. Troitskiy (0). Analysis of a method of holographic processing of scattered optical fields. IN: Sb 16, 10-17. (RZhF, 9/76, 9D1146)

Barbanel', I. S., and V. V. Kulikov (0). Optimizing the recording of holographic matched filters. IN: Sb 12, 40-50. (RZhF, 7/76, 7D1286)

Bazadze, M. A., R. Sh. Megrelishvili, and T. D. Ebralidze (0). Holographic effects in a camera obscura. AN GruzSSR. Soobshcheniya, v. 83, no. 2, 1976.

Bazarskiy, O. V., and Ya. L. Khlyavich (0). Method for enhancing the resolving power of radiooptic systems and SHF holograms.

IN: Sb 16, 201-208. (RZhRadiot, 8/76, 8Ye315)

Beklemishev, A. B., Ye. N. Makeyeva, V. P. Alampiyev, and A. K. Urupov (0). Using liquid crystals to display three-dimensional images. IN: Sb 16, 160-168. (RZhF, 9/76, 9D850)

Belabayev, K. G., V. B. Markov, and S. G. Odulov (0). Optical erasure of holograms in lithium niobate crystals. UFZh, no. 9, 1976.

Belyakov, L. V., D. N. Goryachev, L. G. Paritskiy, and O. M. Sreseli (4). Precision photochemical etching of low-resistance GaAs as a method for recording holograms. FTP, no. 8, 1976.

Berezkin, A. N., N. P. Mudrevskaya, L. T. Mustafina, and A. I. Razumovskaya (4). Obtaining shadow and interference patterns of a low-density gas flow during reconstruction of a wave front from a hologram. ZhTF, no. 8, 1976, 1724-1727.

Budagyan, I. F., D. I. Mirovitskiy, and V. L. Nazarov (0). Microwave processors, theoretical problems and practical applications. IN: Sb 12, 88-105. (RZhF, 7/76, 7D1340)

Budagyan, I. F., D. I. Mirovitskiy, and V. V. Usatyuk (0). Synthesis of nonuniform dielectric resonators for holography. IN: Sb 16, 150-157. (RZhF, 9/76, 9D1176)

Butusov, M. M., S. N. Gulyayev, D. P. Luk'yanov, and A. V. Ivanov (0). Some problems in using spatial-periodic structures in coherent optics. IN: Sb 16, 50-55. (RZhF, 9/76, 9D1155)

Buynov, G. N., I. Ye. Kit, K. S. Mustafin, and M. I. Savrasova (0). Compensating for spherical aberration in a holographic lens by a plane-parallel plate. IN: Sb 16, 86-90. (RZhF, 9/76, 9D1173)

Buynov, G. N., and K. S. Mustafin (0). Compensation of spherical aberration in hologram lenses during a shortwave shift of the reconstructing radiation. OiS, v. 41, no. 1, 1976, 157-158.

Buynov, G. N., and K. S. Mustafin (0). A possibility for compensating spherical aberration in axial hologram lenses. OiS, v. 41, no. 2, 1976, 341-342.

Buzinov, B. I. (0). Modern possibilities for holography in cartography. IN: Sb 23, 9-11. (RZhF, 7/76, 7D1292)

Dadeshidze, V. V. (0). Design and study of polymer polarizers for the visible region of the spectrum. IN: Sb 16, 115-122. (RZhF, 9/76, 9D1279)

Denisyuk, Yu. N., and A. Ikramov (0). Problem of the signal/noise ratio during holographic reversal of beams through a phase-inhomogeneous medium. OiS, v. 41, no. 3, 1976, 466-469.

Dokhikyan, R. G., V. N. Dmitriyev, and S. S. Karinskiy (0). Acoustooptic device for holographic recording of Fourier spectra of radio signals. IN: Sb 12, 197-205. (RZhF, 7/76, 7D1278)

Drugov, L. V., and G. D. Lobov (0). Possible method for using a gas discharge plasma to visualize SHF holograms. IN: Sb 16, 195-200. (RZhRadiot, 9/76, 9Ye225)

Gavrilov, G. A., S. B. Gurevich, and M. S. Cheberyak (0). Obtaining the maximum signal in a holographic television system. TKiT, no. 5, 1976.

Golubkov, V. S., N. N. Yevtikhiyev, V. F. Papulovskiy, and S. G. Romanyuk (0). Controlling thin film waveguides in holographic systems. IN: Sb 12, 181-188. (RZhF, 7/76, 7D1339)

Golubkov, V. S., N. N. Yevtikhiyev, V. F. Papulovskiy, and S. G. Romanyuk (0). Problems of efficiency in controlling semiconductor waveguide switches in holographic systems. IN: Sb 16, 107-114. (RZhRadiot, 8/76, 8Ye312)

Grachev, A. I., A. A. Kukharskiy, V. V. Kaminskiy, S. V. Pogarev, I. A. Smirnov, and S. G. Shul'man (4). Optical recording of amplitude-phase holograms on SmS films. ZhTF P, no. 14, 1976, 628-631.

Kakichashvili, Sh. D. (0). Diffraction of an electromagnetic field and its holographic recording. IN: Sb 24, 50-82. (RZhF, 7/76, 7D1253)

Khaybullin, I. B., M. M. Zaripov, Ye. I. Shtyrkov, M. F. Galyautdinov, and Ye. A. Turiyanskiy (38). Method for obtaining holograms on a semiconductor material. Otkr izobr, no. 11, 1976, 490368.

Kisilitsa, P. P., V. A. Barachevskiy, V. V. Belov, Ye. D. Kvasnikov, V. M. Kozenkov, Ye. A. Kuz'mina, and L. A. Rakitina (0). Properties of photochromic materials with variable information storage time. IN: Sb 25, 88-89. (RZhKh, 19AB, 9/76, 9B1362)

Kit, M. P., M. T. Kostyshin, K. S. Mustafin, P. F. Romanenko, and V. A. Seleznev (0). Characteristics of holograms obtained in As_2S_3 -Ag systems. IN: Sb 16, 178-184. (RZhF, 9/76, 9D1157)

Konson, A. S., and N. T. Savrukov (0). Problems in developing an industrial output of holographic techniques for scientific and technical needs. IN: Sb 12, 67-73. (RZhRadiot, 7/76, 7Ye430)

Kostyshin, M. T. (0). Photosensitive semiconductor-metal systems as a material for recording holograms. IN: Sb 24, 382-398. (RZhF, 7/76, 7D1272)

Kravets, A. N., A. A. Zhaksylykova, and F. S. Kravets (392). Three-dimensional holograms on NaCl and NaCl+Ca crystals. ZhNiPFIK, no. 5, 1976, 359-362.

Krupitskiy, E. I., and B. K. Chernov (0). Method of characteristic waves in the theory of isotropic three-dimensional holographic lattices. IN: Sb 12, 51-60. (RZhF, 7/76, 7D1255)

Kur'yanov, B. F., and N. R. Kukhar' (393). Eliminating ambiguity of an image in acoustic and optical Fourier holography. IN: Tr 14, 78-80. (RZhGeofiz, 8/76, 8V123)

Larionov, N. P., A. V. Lukin, and R. A. Rafikov (7). Controlling the precision of synthesized holograms. OMP, no. 7, 1976, 68-70.

Mirovitskiy, D. I. (0). Some electric aspects of holography. Part 2. IN: Sb 12, 74-87. (RZhF, 7/76, 7D1256)

Mirovitskiy, D. I., and I. A. Chegis (0). Solving the inverse scattering problem for a random circular hologram. IN: Sb 16, 28-39. (RZhF, 9/76, 9D1173)

Nalimov, I. P., and G. N. Kolobrodov (231). Recording a traveling interference pattern of optical fields of different frequencies from two fixed point sources. KE, no. 9, 1976, 1903-1908.

Ostrovskiy, A. S., and Ye. K. Shmarev (0). Amplitude synthesis of holographic diffraction lattices. IN: Sb 12, 61-66. (RZhF, 7/76, 7D1263)

Petrov, A. P., and E. M. Shipulin (0). Holographic recording of the polarization of an optical wave. IN: Sb 5, 269. (RZhF, 7/76, 7D1269)

Petrov, M. P. (0). Reversible holographic media. IN: Sb 14, 68-111. (RZhF, 9/76, 9D1316)

Pilipovich, V. A., S. G. Shmatin, and V. F. Yarmolitskiy (299). Information readout from a hologram matrix by straightedge radiation from semiconductor lasers. IAN B, no. 3, 1976, 89-92.

Semenov, G. B., and S. N. Koreshev (0). Diffraction efficiency and some spectral characteristics of discrete amplitude binary holograms. OiS, v. 41, no. 2, 1976, 310-314.

Sidorovich, V. G. (0). Calculating the diffraction efficiency of three-dimensional phase holograms. OiS, v. 41, no. 3, 1976, 507-510.

Sobolev, G. A., O. B. Serov, and A. M. Smolovich (231). Mutual conversion from transmitting to reflecting-type thick layer holograms, caused by change in the thickness of the photoemulsive layer. ZhTF P, no. 15, 1976, 708-710.

Stadnik, B., and Z. Tronner (NS). Diffraction efficiency of three-dimensional holograms recorded in KCl and KBr crystals with F centers. OiS, v. 41, no. 1, 1976, 118-121.

Tsukanov, V. I. (0). Visualization of holograms in the medium and far infrared regions of the spectrum. IN: Sb 12, 106-110. (RZhF, 7/76, 7D1268)

Vanin, V. A., and L. N. Vagin (0). Determining the frequency-contrast properties of photographic materials by a holographic method. ZhNiPFIK, no. 5, 1976, 326-329.

Yesayan, Yu. V., R. V. Akopov, N. Ts. Tatevosyan, and M. Zh. Yeganyan (389). Study of the possibility of reversible recording of holograms on As_2S_3 chalcogenide glass films. IAN Arm, no. 2, 1976, 134-139.

Yevtikhiyev, N. N., N. V. Pavlova, V. N. Simakov, and K. P. Tsvetayev (0). Possibility of symbol forming in the near UV region of the spectrum for holographic electrooptic systems. IN: Sb 12, 32-39. (RZhF, 7/76, 7D1288)

Yevtikhiyev, N. N., N. V. Pavlova, V. N. Simakov, and K. P. Tsvetayev (0). High-speed electrooptic method for image forming in holographic electrooptic systems. IN: Sb 16, 18-27. (RZhF, 9/76, 9D1174)

Yevtikhiyev, N. N., N. A. Zamyatina, A. R. Krebs, and N. A. Ekonomov (0). Diffraction characteristics of binary magnetic lattices. IN: Sb 16, 169-177. (RZhF, 9/76, 9D1148)

Zverev, V. A., and V. N. Slavinskaya (0). Problem of ideal reconstruction of a wave front in holography. IN: Sb 12, 4-15. (RZhF, 7/76, 7D1260)

Zverev, V. A., and V. N. Slavinskaya (0). Selection of the spatial carrier frequency in holography. IN: Sb 16, 4-9. (RZhF, 9/76, 9D1147)

E. LASER-INDUCED CHEMICAL REACTIONS

Akhmanov, S. A. (2). Selective laser excitation of nonlinear vibrations in molecules. KE, no. 8, 1976, 1846-1848.

Akulin, V. M., S. S. Alimpiyev, N. V. Karlov, B. G. Sartakov, and L. A. Shelepin (1). Kinetics of the excitation of a gas of multiatomic molecules by a strong laser field in the presence of collisions. ZhETF, v. 71, no. 2, 1976, 454-463.

Ambartsumyan, R. V., Yu. A. Gorokhov, V. S. Letokhov, G. N. Makarov, and A. A. Puretskiy (72). Study of the mechanism of isotopically selective dissociation of SF₆ molecules by CO₂ laser radiation. ZhETF, v. 71, no. 2, 1976, 440-453.

Ambartsumyan, R. V. (0). Laser isotope separation. KE, no. 8, 1976, 1845-1846.

Ambartsumyan, R. V., Yu. A. Gorokhov, A. Z. Grasyuk, I. G. Zubarev, A. V. Kotov, and A. A. Puretskiy (1, 72). Using a compressed hydrogen tunable Raman laser for isotope separation. KE, no. 9, 1976, 2059-2061.

Badalyan, N. N., G. A. Vardanyan, N. I. Koroteyev, and Yu. S. Chilingaryan (37). Resonant active spectroscopy of atoms in the gas phase. KE, no. 8, 1976, 1850-1851.

Bakos, J., N. B. Delone, A. Kiss, N. L. Manakov, and M. L. Nagayeva (1). Three-photon ionization of metastable helium atoms. ZhETF, v. 71, no. 2, 1976, 511-525.

Bezuglyy, B. A., Ye. A. Galashin, D. P. Krindach, and V. S. Mayorov (2). Separation of impurities in a liquid by the thermal action of laser radiation. ZhTF P, no. 18, 1976, 832-838.

Chebotayev, V. P. (0). Multiphoton superhigh resolution spectroscopy. KE, no. 8, 1976, 1844-1845.

Karlov, N. V. (1). Excitation of high vibrational states, and dissociation and formation of charged particles during the action of IR laser radiation on molecules. KE, no. 8, 1976, 1848-1849.

Karlov, N. V., N. P. Stupin, and L. A. Shelepin (1). Nonthermal laser stimulation of chemical reactions in the liquid phase. ZhTF P, no. 18, 1976, 828-832.

Karlov, N. V., and K. V. Shaytan (1,2). Separation of molecules with various isotope composition during adsorption. ZhETF, v. 71, no. 2, 1976, 464-471.

Kolomiyskiy, Yu. R., V. S. Letokhov, and O. A. Tumanov (72). Study of vibrational excitation of an OCS molecule and lasing under pumping by a CO₂ laser pulse. KE, no. 8, 1976, 1771-1781.

Konovalov, I. P., and Ye. D. Protsenko (16). Determining the relaxation constants in levels by a method of resonant interaction of two traveling waves in a two-level system. KE, no. 9, 1976, 1991-2004.

Letokhov, V. S. (72). Elementary processes of selective action by laser radiation on matter. KE, no. 8, 1976, 1841-1843.

Medvedev, B. A., A. Ye. Dmitriyev, and A. L. Shchurayts (0). Possibility of slowing down chemical chain reactions by laser radiation. IN: Sb 26, 121-128. (RZhKh, 19AB, 7/76, 7B1092)

Milenin, V. V., V. Ye. Primachenko, and G. A. Sukach (6). Recombination processes on a gold-doped silicon surface under laser excitation. UFZh, no. 8, 1976, 1301-1304.

Molin, Yu. N., and V. N. Panfilov (0). Control of chemical reactions by means of laser radiation. KE, no. 8, 1976, 1843-1844.

F. INSTRUMENTATION AND MEASUREMENT

1. Measurement of Laser Parameters

Atroshchenko, V. I., B. V. Kalachev, and V. S. Prokudin (0). Annular structure of laser radiation. Ois, v. 41, no. 3, 1976, 507.

Aver'yanov, K. P., B. A. Antropov, L. P. Ignat'yeva, V. V. Korobkin, Yu. Ye. Markelov, V. M. Ovchinnikov, P. P. Pashinin, Yu. A. Pirogov, and B. M. Stepanov (0). Principles of control of a single pulse laser system. IN: Sb 27, 5-13. (RZhRadiot, 7/76, 7Ye114)

Aver'yanov, K. P., L. P. Ignat'yeva, V. V. Korobkin, Yu. Ye. Markelov, P. P. Pashinin, and B. M. Stepanov (0). Principles of functional control of a single pulse laser system. IN: Sb 27, 14-23. (RZhRadiot, 7/76, 7Ye113)

Bautin, A. V., Yu. A. Polyakov, and A. A. Shilyayev (0). Problem of measuring the space-time distribution of laser radiation intensity. KE, no. 7, 1976, 1527-1533.

Cristescu, C. P., G. F. Cone, I. M. Popescu, and A. M. Preda (NS). Transverse distribution of the radiation from an He-Cd hollow cathode discharge. Revue roumaine de physique, v. 21, no. 2, 1976, 153-160. (RZhRadiot, 8/76, 8Ye45)

Denisov, A. N., V. G. Dmitriyev, and Ye. A. Shalayev (118). Space-time structure of YAG:Nd laser radiation in an active Q-switched regime. IN: Tr 2, 62-71. (RZhF, 8/76, 8D1137)

Golovanevskiy, E. I., and S. P. Varshavskiy (0). Study of background signals in a laser radiation scanner. OIS, v. 41, no. 1, 1976, 127-131.

Kosorotov, V. F., L. S. Kremenchugskiy, and N. A. Tsoglina (0). Rotational pyroelectric detectors for measuring intense radiation fluxes. ZhPS, v. 25, no. 1, 1976, 166-168.

Kuprevich, V. V., P. Ya. Vasil'yev, and A. A. Zelenov (7). Display device for observing infrared laser radiation. OMP, no. 8, 1976.

Masalov, A. V. (1). Measurement of signals during nonlinear conversion of multimode laser radiation. KE, no. 8, 1976, 1667-1671.

Nosach, O. Yu., and Ye. P. Orlov (1). Form characteristics of the angular spectrum of lasing radiation in an iodine laser. KE, no. 7, 1976, 1423-1435.

Solov'yev, V. S., and A. K. Toropov (0). Draft of a monitoring scheme for techniques to measure the frequency characteristics and spectral parameters of a laser. IT, no. 9, 1976, 14-16.

2. Miscellaneous Measurement Applications

Abramov, L. I., I. G. Akopyan, V. V. Vitkovskiy, G. L. Grodzovskiy, Yu. A. Zlenko, Yu. Ye. Kuznetsov, A. S. Mozol'kov, A. N. Petunin, R. N. Ovsyannikov, V. V. Skvrtsov, A. N. Filatov, V. A. Fil', V. G. Shumilkin, and V. P. Yankov (0). Optimal laser Doppler flowmeter for aerodynamic studies. IN: Sb 9, 23-24. (RZhMekh, 9/76, 9B1149)

Alekseyev, A. S., and T. I. Galkina (1). Electron-hole droplets in Ge in the field of an elastic deformation wave. FTT, no. 7, 1976, 2005-2011.

Alkhimov, A. P., A. N. Papyrin, and A. L. Predein (0). Using a high speed confocal spectrometer in a Doppler flowmeter scheme. IN: Sb 5, 265-266. (RZhF, 7/76, 7D1555)

Antonov, G. S., T. K. Borisevich, L. I. Kiselevskiy, and T. M. Kurikina (0). Determining small concentrations of carbon in steels by means of laser excitation in the vacuum UV region of the spectrum. ZhPS, v. 25, no. 3, 1976, 532-534.

Anufrik, S. S., A. S. Kireyev, I. A. Morozov, Ye. V. Pan'ko, N. V. Strizhenok, S. D. Tushina, and V. S. Motkin (0). Fabry-Perot block interferometer using an optical contact. ZhPS, v. 25, no. 3, 1976, 557-559.

Aponin, G. I., and A. A. Besshaposhnikov (0). Laser Doppler flowmeter for measuring the speed profile of a gas flow. PTE, no. 4, 1976, 224-226.

Apostol, D. (NS). Holographic testing of optical surfaces. Studii si cercetari de fizica, v. 28, no. 2, 1976, 121-124. (RZhF, 9/76, 9D1160)

Apostol, D. (NS). Lateral shift interferometer. Studii si cercetari de fizica, v. 28, no. 3, 1976, 307-308. (RZhF, 9/76, 9D1269)

Arslanbekov, T. U., and N. B. Delone (1). Probability of ionization of an Xe atom in a strong laser radiation field at about 1 μ . Kratkiye soobshcheniya po fizike, no. 1, 1976, 35-37. (RZhF, 9/76, 9D952)

Aver'yanova, G. I., N. P. Larionov, A. V. Lukin, K. S. Mustafin, and R. A. Rafikov (0). Possibility of controlling the main mirror of the BGA telescope by means of circular artificial holograms. IN: Sb 12, 112-120. (RZhRadiot, 7/76, 7Ye447)

Barill, G. A., V. S. Sobolev, and F. A. Zhuravel' (0). Parasite frequency modulation of laser Doppler flowmeter signals at low scatterer concentrations. IN: Sb 28, 74-97. (RZhRadiot, 7/76, 7Ye371)

Barill, G. A., and V. S. Sobolev (0). Evaluating the potential accuracy of a laser Doppler flowmeter. IN: Sb 28, 98-106. (RZhRadiot, 7/76, 7Ye383)

Belenov, E. M., M. V. Danileyko, V. R. Kozubovskiy, A. P. Nedavniy, and M. T. Shpak (5). Superhigh resolution spectroscopy based on wave competition in a ring laser. ZhETF, v. 71, no. 1, 1976, 78-87.

Belozerov, A. F., A. V. Yen'shin, V. G. Zaytsev, I. S. Zeylikovich, and N. M. Soornik (0). Use of a holographic interferometer with a reference wave formed from an object in a ballistic experiment. ZhTF, no. 9, 1976, 1987-1989.

Berezhnyy, V. L., V. I. Kononenko, and V. V. Gushchin (0). High speed three-mirror submillimeter interferometer based on an HCN laser. IN: Sb 29, 28-34. (RZhF, 7/76, 7D1479)

Bogatyrev, V. Ya., Yu. G. Vasilenko, Yu. N. Dubnishchev, V. A. Mukhin, V. Ye. Nakoryakov, V. S. Sobolev, Ye. N. Utkin, and N. F. Shmoylov (0). Studying a flow in a rectangular cross-section trench by a laser Doppler flowmeter. IN: Sb 28, 219-246. (RZhRadiot, 7/76, 7Ye375)

Borisov, A. F., E. I. Krupitskiy, T. N. Sergeyenko, and V. I. Yakovlev (0). Interference-type acoustooptic spectroanalyzer. IN: Sb 16, 209-214. (RZhRadiot, 8/76, 8Ye254)

Borissov, M., K. T. Stoytchev, and M. I. Kovachev (NS). Holographic study of vibrations of piezoelectric AT-cut quartz resonators. DBAN, no. 4, 1976, 477-480.

Borovoy, V. Ya., B. A. Ivanov, A. A. Orlov, and V. N. Kharchenko (0). Study of spatial supersonic flows by means of a laser blade. IN: Sb 9, 69. (RZhMekh, 9/76, 9B1191)

Boyarshinov, B. F., L. N. Puzyrev, and A. L. Rudnitskiy (0). Laser anemometer for wind tunnels. IN: Sb 9, 47. (RZhMekh, 9/76, 9B1148)

Braude, K. P., G. A. Zykov, S. N. Kraytor, N. N. Krot, T. V. Kuznetsova, G. Z. Nefedova, M. M. Orlova, and L. I. Gracheva(0). Study of the distribution of active groups in ion exchange membranes by a method of laser mass-spectrometry. IN: Sb 30, 63. (RZhKh, 19AB, 8/76, 8B1608)

Bulychev, V. P., Yu. M. Ladvishchenko, E. B. Khodos, and M. O. Bulanin (0). Laser molecular spectroscopy. Determining the parameters of the vibrational-rotational lines of the IR ν_2 band of amonia. OIS, v. 41, no. 3, 1976, 413-418.

Bushmin, A. S., and A. A. Orlov (133). Using a tunable dye laser to study a high speed gas flow. TVT, no. 4, 1976, 911-912.

Butusov, M. M. (0). Holographic interferometry and the structure of an optical field. IN: Sb 12, 16-24. (RZhF, 7/76, 7D1279)

Butusov, M. M., and N. V. Yermakova (0). Use of holography and coherent optics for control and for the microelectronics industry.

IN: Sb 16, 78-85. (RZhRadiot, 9/76, 9Ye221)

Butusov, M. M., N. V. Yermakova, and A. V. Knyaz'kov (29).

Laser method for visualizing defects in autoepitaxial films.

ZhTF P, no. 14, 1976, 660-664.

Dubnishchev, Yu. N., V. P. Koronkevich, and V. S. Sobolev (0).

Principles of construction of laser Doppler flowmeters.

IN: Sb 28, 3-39. (RZhRadiot, 7/76, 7Ye377)

Dubnishchev, Yu. N., A. R. Yevseyev, V. S. Sobolev, and Ye. N.

Utkin (0). Studying gas-saturated turbulent flows by means of a

laser Doppler flowmeter. IN: Sb 28, 247-261. (RZhRadiot, 7/76,

7Ye336)

Fabelinskiy, I. L., and I. L. Chisty (1). New methods and achievements in high resolution spectroscopy. UFN, v. 119,

no. 3, 1976, 487-524.

Filippov, V. P., Yu. P. Kurenev, V. I. Larchenko, Ye. A.

Rainkina, and A. Z. Bulgakov (0). Possible ways of raising the sensitivity of photoelectric instruments for controlling aerosols.

IN: Sb 31, 40-51. (RZhRadiot, 9/76, 9Ye255)

Galanov, Ye. K., G. N. Potikhonov, V. V. Sorokin, and O. M.

Sheshin (7). Methods for measuring the Faraday effect in semiconductor infrared magneto optic polarimeters. OMP,

no. 8, 1976, 23.

Gayday, Yu. A., A. A. Solomko, and V. I. Maystrenko (51).

Using a laser beam to study instabilities in YIG under perpendicular pumping. FTT, no. 8, 1976, 2205-2208.

Godlevskiy, A. P., V. P. Lopasov, and S. F. Luk'yanenko (0).
Study of weak absorption lines by a laser spectrometer.
IN: Sb 10, 116-121. (RZhF, 9/76, 9D1240)

Golubovskiy, Yu. B., Yu. M. Kagan, and V. N. Rzhnevskiy (0).
Atomic temperatures in a positive discharge column under medium pressures in noble gases. Ois, v. 41, no. 3, 1976, 385-389.

Gorelik, V. S., S. V. Ivanova, I. P. Kucheruk, B. A. Strukov, and A. A. Khalezov (0). Temperature dependence of Raman scattering spectra in LiNbO₃. FTT, no. 8, 1976, 2297-2300.

Junge, K. (NS). Optics in instrument manufacture.
Feingeraetetechnik, v. 25, no. 3, 1976, 100-104.
(RZhF, 7/76, 7D1421)

Kalabushkin, O. I., L. N. Kaporskiy, and V. S. Salyadinov (7).
Use of an inorganic liquid laser for high speed photography and multiframe interferometry. OMP, no. 7, 1976, 46-48.

Klimkin, V. F., and A. G. Ponomarenko (0). Multiframe system for optical photorecording of the initial stages of development in superfast processes. IN: Sb 5, 260-262. (RZhF, 7/76, 7D1571)

Kopeykina, E. K., and M. L. Yanson (0). Transfer of electron energy from optically excited molecules of sodium to atoms of sodium and potassium. Ois, v. 41, no. 3, 1976, 378-384.

Kopilevich, Yu. I., and G. B. Sochilin (0). Reconstruction of a turbulence spectrum from optical measurements. Ois, v. 41, no. 1, 1976, 136-142.

Kopystynska, A. (NS). Laser symposium. Postepy fizyki, no. 1, 1976, 81-83.

Kovalev, V. I. (0). Lasers and laser equipment at the "Fizika-75" exhibit, Moscow, 25 November - 3 December 1975. KE, no. 8, 1976, 1837-1840.

Kreplin, P. (0). Cylindrical quartz lens for photographing weak intensity or low energy spectra by means of a spectrograph with an R-2 plane diffractive lattice. IN: Sb 32, 78-79. (RZhF, 7/76, 7D1425)

Krichever, M. Ya., N. A. Orlov, and S. G. Slavnov (0). Controlling laser radiation in atomic absorption analysis of complex objects. IN: Sb 33, 95-100. (RZhF, 8/76, 8D1252)

Kurnosov, V. D., V. N. Luk'yanov, S. M. Sapozhnikov, A. T. Semenov, and Yu. A. Tambiyev (0). Study of the transient lasing process in optically coupled lasers. KE, no. 8, 1976, 1808-1811.

Lavrenova, A. Ye., A. V. Mochalov, and P. I. Saydov (317). Perturbed resonator for a laser gyroscope. IN: Tr 15, 52-55. (RZhRadiot, 7/76, 7Ye276)

Lavrinovich, N. N., and V. S. Letokhov (72). Detection of narrow "laser" lines hidden by spatially inhomogeneous broadening in radiation in stellar atmospheres. KE, no. 9, 1976, 1948-1954.

Lopasov, V. P., S. F. Luk'yanenko, S. Yu. Nechayev, and L. N. Sinitsa (0). Possibilities of controlling atmospheric gas pollution by laser spectroscopy. IN: Sb 10, 121-131. (RZhF, 9/76, 9D907)

Lozovskiy, P. M., V. V. Mikhaylin, A. A. Plachev, R. V. Khokhlov, S. P. Chernov, and P. B. Essel'bakh (2). Efficient ultraviolet luminescence in alkali-halide crystals excited by a high-power VUV laser. ZhTF P, no. 13, 1976, 587-589.

Manenkov, A. A., V. A. Milyayev, G. N. Mikhaylova, and A. S. Seferov (1). Detecting and determining the parameters of large electron-hole droplets in germanium, based on SHF conductivity. ZhETF P, v. 24, no. 3, 1976, 141-144.

Mavrin, B. N., A. V. Bobrov, and Kh. Ye. Sterin (0). Level of scattered light in a DFS-24 laser spectrometer for Raman scattering. ZhPS, v. 25, no. 1, 1976, 151-153.

Nadtochiy, A. A. (163). Measuring the temperature distribution in a plasma by holographic methods. IN: Tr 16, 74-81. (RZhRadiot, 8/76, 8Ye314)

Nelidkin, A. M. (128). Justification for using standard instruments in a laser Doppler flowmeter simulator. IN: Tr 17, 59-63. (RZhRadiot, 7/76, 7Ye381)

Orlov, A. A., and T. G. Semikova (0). Effect of transparent inhomogeneities in a gas flow on errors in measuring speed by a laser Doppler flowmeter. IN: Sb 9, 138. (RZhMekh, 9/76, 9B1151)

Pavelek, M., M. Liska, V. Bocek, and Z. Ramik (NS). Examination of temperature fields by means of holographic and difference interferometry. Jemna mekhanika a optika, no. 6, 1976, 162-166.

Petrov, A. P., and E. M. Shipulin (0). Holographic recording of a dynamic field of light-scattering particles by paired pulses. IN: Sb 9, 185. (RZhMekh, 9/76, 9B1160)

Postoyenko, Yu. K. (0). A laser Doppler flowmeter as a statistical approximator. IN: Sb 28, 111-113. (RZhRadiot, 7/76, 7Ye382)

Potapov, O. A. (0). Coherent optical systems for processing geological and geophysical information. IN: Sb 12, 135-152. (RZhRadiot, 7/76, 7Ye450)

Safronov, G. S., and A. P. Safronova (0). Requirements for precision of adjusting interrelated elements in holographic measuring devices. IN: Sb 12, 126-134. (RZhF, 7/76, 7D1262)

Safronov, G. S. (0). Holographic methods for detecting wave processes and measuring coordinates originating in their sources. IN: Sb 16, 40-49. (RZhF, 9/76, 9D1167)

Senin, A. G., and S. A. Timokhin (0). Analyzing the accuracy of a laser Doppler flowmeter at low concentrations of the scattering particles. IN: Sb 28, 114-124. (RZhRadiot, 7/76, 7Ye373)

Shisharin, A. V., G. I. Khokhlov, and S. A. Klenin (0). Optical modulation spectrum analyzer. IN: Sb 16, 215-223. (RZhF, 9/76, 9D1331)

Snezhko, Yu. A., and V. P. Tychinskiy (161). Laser profilograph. PTE, no. 4, 1976, 274.

Sobolev, V. S. (0). Spectrum of a "phase" noise at the output of a laser Doppler flowmeter. IN: Sb 28, 107-110. (RZhRadiot, 7/76, 7Ye376)

Sobolev, V. S., and S. A. Timokhin (0). Optimum concentration of scattering particles in a flow. IN: Sb 28, 125-131. (RZhRadiot, 7/76, 7Ye378)

Soloukhin, R. I., Yu. A. Yakobi, and V. I. Yakovlev (0). Developing methods of IR interferometry for studying the gas state behind an ionizing shock wave front. IN: Sb 9, 186. (RZhMekh, 9/76, 9B1199)

Starik, V. D., L. A. Suslennikov, V. V. Trynin, V. M. Fedorov, and M. B. Shapochkin (0). Experimental study of the operation of a wideband stroboscopic FM demodulator used as a laser Doppler flowmeter, in studying flows with a periodically varying speed. IN: Sb 9, 49. (RZhMekh, 9/76, 9B1154)

Sviridenkov, E. A., and M. P. Frolov (1). Using a method of intraresonator laser spectroscopy to study the recombination kinetics of free NH_2 radicals. Kratkiye soobshcheniya po fizike, no. 3, 1976, 8-12. (RZhF, 9/76, 9D1125)

Vanyushin, V. I., and A. N. Morgunov (128). A method for spatially determining the spectrum of a laser Doppler flowmeter signal. IN: Tr 17, 28-33. (RZhRadiot, 7/76, 7Ye380)

Vasilenko, Yu. G., and Yu. N. Dubnishchev (0). Fourier analysis of optical schemes for laser Doppler flowmeters. IN: Sb 28, 40-67. (RZhRadiot, 7/76, 7Ye372)

Vasilenko, Yu. G., and Yu. N. Dubnishchev (0). Optical Doppler device for simultaneous measurement of three orthogonal components of a velocity vector. IN: Sb 28, 132-154. (RZhRadiot, 7/76, 7Ye374)

Vasilenko, Yu. G., and Yu. N. Dubnishchev (0). Optical schemes of laser Doppler flowmeters with suppression of the additive constituent signal. IN: Sb 28, 155-171. (RZhRadiot, 7/76, 7Ye370)

Vasilenko, Yu. G., Yu. N. Dubnishchev, V. S. Sobolev, and A. A. Stolpovskiy (0). Laser Doppler vector flowmeter with frequency shift. IN: Sb 28, 172-186. (RZhRadiot, 7/76, 7Ye369)

Vasilenko, Yu. G., Yu. N. Dubnishchev, V. P. Koronkevich, V. S. Sobolev, A. A. Stolpovskiy, Ye. N. Utkin, and N. F. Shmoylov (0). Laser Doppler flowmeter with parallel filtration. IN: Sb 28, 187-218. (RZhRadiot, 7/76, 7Ye379)

Vasilenko, Yu. G., and Yu. N. Dubnishchev (0). Afocal Doppler meter for measuring flow velocity vector. OIS, v. 41, no. 1, 1976, 132-135.

Vasilenko, Yu. G., Yu. N. Dubnishchev, and F. A. Zhuravel' (0). Spatial resolution and accuracy of laser Doppler flowmeters. OIS, v. 41, no. 2, 1976, 293-300.

Vavakin, A. S. Yu. I. Kozyrev, and R. L. Salganik (0). Stress-deformed state of the end region of a crack in polymethylmethacrylate. IAN SSSR. Mekhanika tverdogo tela, no. 2, 1976, 111-120.

Vayner, Yu. G., and U. V. Khangil'din (0). Instrument for studying polarization. OIS, v. 41, no. 2, 1976, 315-319.

Yakunin, V. V., and A. M. Nelidkin (128). Evaluating the signal/Doppler background ratio in a laser Doppler flowmeter. IN: Tr 17, 23-27. (RZhRadiot, 7/76, 7Ye384)

Yershova, T. A., V. P. Kulesh, A. A. Orlov, and V. Ye. Ryabchikov (0). The "Argus" laser decoder for holograms of gas flows. IN: Sb 9, 48. (RZhMekh, 9/76, 9B1155)

Yespkina, N. A., Ye. T. Aksenov, V. A. Grigor'yev, and S. V. Pruss-Zhukovskiy (0). Acoustooptic r. f. spectrum analyzer. IN: Sb 12, 189-196. (RZhRadiot, 7/76, 7Ye224)

Yevtikhiyev, N. N., and A. A. Pastushkov (0). Determining the square-law of a module of characteristic functions for the height of irregularities in a mean plane surface. IN: Sb 12, 121-125. (RZhRadiot, 7/76, 7Ye448)

Yevtikhiyev, N. N., A. A. Pastushkov, and I. N. Abrosimov (0). Determining the distribution law of particle diameters in studying three-dimensional media. IN: Sb 12, 153-155. (RZhRadiot, 7/76, 7Ye449)

Yevtikhiyev, N. N., and A. A. Pastushkov (0). Determining the law of height distribution of roughness in a median plane surface, based on reflected coherent radiation. IN: Sb 16, 123-132. (RZhF, 9/76, 9D1321)

Zubarev, Ye. I., B. S. Rinkevichyus, A. V. Tolkachev, and V. N. Kharchenko (0). Laser Doppler anemometer for studying the boundary layer and detached regions in super- and hypersonic flows. IN: Sb 9, 51-52. (RZhMekh, 9/76, 9B1150)

Zubov, B. V., A. A. Manenkov, V. A. Milyayev, G. N. Mikhaylova, T. M. Murina, A. M. Prokhorov, and A. S. Seferov (1). Study of the condensation of excitons in Ge by methods of SHF breakdown of excitons and luminescence under single-photon and two-photon excitation of the carriers. FTT, no. 7, 1976, 2024-2029.

G. BEAM-TARGET INTERACTION

1. Metal Targets

Alekseyeva, O. K., B. M. Zhiryakov, N. I. Popov, and A. K. Fannibo (0). Character of thermoelastic stresses in metal plates under laser heating. FiKhOM, no. 5, 1976, 121-124.

Apostol, I., V. A. Batanov, I. N. Mihailescu, I. Morjan, A. M. Prokhorov, and V. B. Fedorov (1). Recoil pulse in metal targets under the action of microsecond CO₂ laser radiation. KF, no. 9, 1976, 2054-2056.

Arifov, U. A., V. B. Lugovskoy, and V. A. Makarenko (0). Negative ion emission during irradiation of metals by microsecond pulses of ruby laser radiation. IAN Fiz, no. 8, 1976, 1702-1706.

Balatskiy, A. A., A. A. Uglov, G. Ya. Lobacheva, and D. P. Kayro (0). Evaluating the efficiency of laser radiation in the melting of materials. FiKhOM, no. 4, 1976, 13-17.

Balatskiy, A. A., A. A. Uglov, and G. Ya. Lobacheva (0). Laws governing liquid phase splashout during melting of metals by laser radiation. FiKhOM, no. 5, 1976, 9-12.

Baranov, M. S., B. A. Vershok, and I. N. Geynrikhs (0). Effect of laser intensity on the mechanism of cratering in metals. FiKhOM, no. 4, 1976, 8-12.

Baranov, M. S., B. A. Vershok, and I. N. Geynrikhs (0). Experimental verification of cratering models from laser irradiation of a metal. FiKhOM, no. 5, 1976, 3-8.

Bedilov, M. R., T. G. Tsoy, and U. Egamov (0). Charged particle emission from the exit face of a target under laser radiation. IAN Fiz, no. 8, 1976, 1741-1744.

Golodenko, N. N., A. Ya. Vorob'yev, V. M. Kuz'michev, and V. G. Guzhva (0). Absorption of a laser pulse by metals. IN: Sb 34, 138-142. (RZhRadiot, 7/76, 7Ye334)

Lokhov, Yu. N., A. A. Uglov, I. I. Shvyrkova (0). Plastic deformation of metals under the action of intense sources. ZhPMTF, no. 3, 1976, 129-140.

Shilov, Yu. I. (0). Possibility of bleaching aluminum metal films under the action of a laser pulse. FTT, no. 8, 1976, 2466-2468.

Uglov, A. A., M. V. Orekhov, and A. N. Kokora (0). Improving the efficiency of dimensional processing by laser radiation. FiKhOM, no. 4, 1976, 135-136.

Voshchinskiy, M. L., V. A. Gorokhov, P. M. Fedorov, I. F. Shilov, G. A. Saltykov, G. D. Zytner, and N. M. Sokolov (0). Laser welding of VNZh7-3 and Kh15N25M6 (EI395) alloys. Svarochnoye proizvodstvo, no. 7, 1976, 21-22.

2. Dielectric Targets

Aleshkevich, V. A., S. A. Akhmanov, B. V. Zhdanov, A. I. Kovrigin, V. I. Kuznetsov, and A. P. Sukhorukov (2). Study of the frequency characteristics in the optical breakdown of solid transparent dielectrics in a field of nanosecond laser pulses. ZhTF, no. 8, 1976, 1693-1699.

Anisimov, S. I., V. L. Komolov, and G. M. Rubanova (0). Dynamics in the development of laser breakdown of dielectrics triggered by absorption inhomogeneities. IN: Sb 1, 128. (RZhRadiot, 9/76, 9Ye232)

Artem'yev, Ye. F., V. N. Kalinin, and V. A. Fromzel' (0). Threshold of destruction of LiNbO_3 crystals in a high-power 1.54μ optical wave field. IN: Sb 1, 143. (RZhRadiot, 9/76, 9Ye233)

Bebchuk, A. S., D. A. Gromov, and V. S. Nechitaylo (0). Measure of surface defects and optical strength of transparent dielectrics. KE, no. 8, 1976, 1814-1816.

Belinicher, V. I., I. F. Kanayev, V. K. Malinovskiy, and B. I. Sturman (75). Study of the effect of optical damage to lithium niobate crystals. FTT, no. 8, 1976, 2256-2261.

Kask, N. Ye., L. S. Korniyenko, V. V. Radchenko, G. M. Fedorov, and D. B. Choporniyak (98). Action of millisecond laser radiation on radiation-colored K-8 glass. KE, no. 7, 1976, 1570-1576.

Manenkov, A. A. (0). Current status of the problem of laser destruction of transparent dielectrics. IN: Sb 1, 121. (RZhRadiot, 9/76, 9Ye238)

Vlasov, R. A., and S. P. Zhvavy (0). Optical breakdown of transparent dielectrics in external d-c electric fields. ZhPS, v. 25, no. 3, 1976, 500-503.

Zverev, G. M., V. S. Naumov, and V. A. Pashkov (0). Destruction of YAG crystals by laser radiation. IN: Sb 1, 140. (RZhRadiot, 9/76, 9Ye114)

3. Semiconductor Targets

Bal'kyavichyus, P., V. Bemelis, I. Gulbinas, A. Dement'yev, I. Lukoshyus, and E. Maltudis (0). Destruction of $Al_xGa_{1-x}As$ by laser radiation. IN: Sb 1, 148. (RZhRadiot, 9/76, 9Ye236)

Bogatyrev, V. A., A. A. Gavrilov, G. A. Kachurin, and L. S. Smirnov (10). Implanted p-n junctions in GaAs obtained by pulsed laser annealing. FTP, no. 7, 1976, 1392-1394.

Borshch, A. A., M. S. Brodin, and N. N. Krupa (0).
Effect of self-focusing on the destruction of group A₂B₆ semiconductors by laser radiation. IN: Sb 1, 145.
(RZhRadiot, 9/76, 9Ye237)

Gomelauri, G. V., Yu. K. Danileyko, A. S. Yepifanov, A. A. Manenkov, V. A. Milyayev, and A. V. Sidorin (0).
Study of the processes of the interaction of high-power IR laser radiation with single crystals of germanium and silicon.
IN: Sb 1, 147. (RZhRadiot, 9/76, 9Ye234)

Lisovets, Yu. P., I. A. Poluektov, and Yu. M. Popov (1).
Effect of impurity scattering of nonequilibrium carriers on the passage of a high power coherent radiation pulse through a semiconductor. FTP, no. 9, 1976, 1797.

Romanenko, I. L., E. S. Stepanchenko, and I. Yu. Shabliy (5,391).
Formation of defects in CdS single crystals under the action of high power ruby laser pulses. UFZh, no. 8, 1976, 1381-1382.

4. Miscellaneous Studies

Aleksakhin, I. S., I. P. Zapesochnyy, and V. V. Suran (136).
Observation of single and double charged ions during multiphoton ionization of barium atoms. UFZh, no. 8, 1976, 1383-1384.

Apostol, I., L. C. Arsenovici, D. Barb, V. Draganescu, I. N. Mihailescu, V. S. Teodorescu, and Ye. Karlova (0).
Optico-microscopic study of the destruction of KCl crystals by pulsed CO₂ laser radiation at atmospheric pressure.
IN: Sb 1, 126. (RZhRadiot, 9/76, 9Ye235)

- Barchukov, A. I., F. V. Bunkin, V. I. Konov, N. N. Kononov, G. P. Kuz'min, G. A. Mesyats, and N. I. Chapliyev (1). "Explosive" mechanism of pressure on solid targets irradiated by a pulsed CO₂ laser. KE, no. 7, 1976, 1534-1542.
- Barskiy, Ye. A. (0). Microminiaturization of quartz resonators by laser welding. IN: Sb 35, 137-141. (RZhRadiot, 7/76, 7Ye364)
- Bunkin, F. V., and A. M. Prokhorov (1). Using a laser energy source to produce a jet thrust. UFN, v. 119, no. 3, 1976, 425-446.
- Krishtal, M. A., P. N. Zakharov, and A. N. Kokora (0). Contribution of diffusion processes to the redistribution of matter in a solid under the action of laser radiation. FiKhOM, no. 4, 1976, 24-28.
- Levinson, G. R., and V. I. Smilga (0). Laser processing of thin films (review). KE, no. 8, 1976, 1637-1659.
- Lopukhin, V. A., and Yu. F. Shekhanov (277). Device for trimming film resistors. Author's certificate USSR, no. 477472, issued 26 December 1975. (RZhRadiot, 8/76, 8Ye329)
- Lyubov, B. Ya., and E. N. Sobol' (0). Quasistationary development of holes in a material from vaporization by laser radiation. ZhTF, no. 7, 1976, 1517-1521.
- Mastryukov, A. F., and V. S. Synakh (0). Breakup of self-focusing wave bundles into filaments. IN: Sb 1, 280. (RZhRadiot, 9/76, 9Ye247)
- Nabatov, V. V., L. M. Belyayev, and N. N. Dymenko (0). Coloring of KCl, KBr and KI crystals during their destruction by laser radiation. IN: Sb 1, 127. (RZhRadiot, 9/76, 9Ye239)

Nanai, L., I. Hevesi (Ya. Kheveshi), and I. Ketskemeti (I. Kechkemeti) (NS). Damages in V_2O_5 single crystals from laser light. Acta physica et chemica. Szeged, v. 21, no. 3-4, 1975, 109-118. (RZhF, 9/76, 9D1100)

Petukh, M. L., V. D. Satsunkevich, and A. A. Yankovskiy (0). Study of laser segregation of material for spectral analysis. ZhPS, v. 25, no. 1, 1976, 33-39.

Rayevich, V. K., G. A. Zaydenberg, A. N. Kokora, V. P. Khavkin, M. D. Blekhan, V. Z. Karasik, I. V. Koshel', B. S. Vinevich, V. A. Krasutskiy, M. V. Marshev, L. A. Savchenkova, and A. G. Tsarev (0). Automatic system for programmed cutting of nonmetal materials by a laser beam. KE, no. 7, 1976, 1543-1548.

Strekalov, V. N. (118). Using the variational principle to solve kinetic equations. Kinetics of the breakdown of crystals by laser radiation. IN: Tr 2, 3-10. (RZhF, 8/76, 8D1242)

H. PLASMA GENERATION AND DIAGNOSTICS

Afanas'yev, A. A., R. A. Vlasov, and S. P. Zhvavyi (0). Deformation of a high-power laser pulse during the development of avalanche ionization in a gas. ZhPS, v. 25, no. 1, 1976, 154-156.

Afanas'yev, Yu. V., Ye. G. Gamaliy, O. N. Krokhin, and V. B. Rozanov (1). Stationary model of a "corona" of spherical laser targets. ZhETF, v. 71, no. 2, 1976, 594-602.

Afanas'yev, Yu. V., N. G. Basov, P. P. Volosevich, Ye. G. Gamaliy, O. N. Krokhin, S. P. Kurdyumov, Ye. I. Levanov, V. B. Rozanov, A. A. Samarskiy, and A. N. Tikhonov (1). Extremum physical conditions in the process of laser-driven thermonuclear combustion. ZhETF P, v. 24, no. 1, 1976, 23-25.

Afanas'yev, Yu. V., P. P. Volosevich, Ye. G. Gamaliy, I. D. Mash, and V. B. Rozanov (1). Retardation and scattering of epithermal electrons in a dense laser plasma. Kratkiye soobshcheniya po fizike, no. 3, 1976, 37-41. (RZhRadiot, 8/76, 8Ye207)

Alalykin, G. B., A. V. Zabrodin, G. N. Novozhilova, and L. A. Pliner (0). Calculations on evaluating the effect of nonsymmetry on the motion of a deuterium-tritium droplet under the action of a laser pulse. IN: Sb 7, 17-34. (RZhMekh, 9/76, 9B313)

Andreyev, S. I., V. Ya. Gol'din, Ye. A. Zobov, N. N. Kalitkin, V. G. Sokolov, and B. N. Chetverushkin (71). Optical detonation in radiative discharges. ZhTF P, no. 13, 1976, 598-602.

Antipov, A. B., V. P. Lopasov, S. Yu. Nechayev, and Yu. N. Ponomarev (0). Nonlinear propagation of an optical pulse in water and iodine vapors. IN: Sb 10, 131-143. (RZhF, 9/76, 9D932)

Belyayev, L. M., A. B. Gil'varg, Yu. A. Mikhaylov, S. A. Pikuz, G. V. Sklizkov, A. Ya. Fayenov, and S. I. Fedotov (13, 1). X-ray photography of a laser plasma, using crystal analyzers curved to spherical surfaces. KE, no. 9, 1976, 2057-2059.

Beygman, I. L., V. A. Boyko, S. A. Pikuz, and A. Ya. Fayenov (0). Collisional luminescence of metastable levels and intensity of the resonant doublet components of hydrogen-like ions in a laser plasma. ZhETF, v. 71, no. 3, 1976.

Boyko, V. A., V. A. Danilychev, V. D. Zvorykin, I. V. Kholin, and A. Yu. Chugunov (1). Study of gasdynamic processes and recoil pulse during optical breakdown of air near the surface of a target under the action of a CO₂ electroionization laser. KE, no. 9, 1976, 1955-1961.

Dushin, L. A., V. I. Privezentsev, and V. S. Taran (0). Laser plasma interferometry (review). ZhPS, v. 25, no. 3, 1976, 379-407.

Goncharenko, A. F., I. V. Nemchinov, and V. M. Khazins (0). Calculating the motion of a gas behind an optical detonation wave front, allowing for lateral expansion of the plasma column. ZhPMTF, no. 3, 1976, 18-28.

Gudzenko, L. I., I. S. Slesarev, and S. I. Yakovlenko (1). Pulsed reactor-lasers. Kratkiye soobshcheniya po fizike, no. 2, 1976, 34-38. (RZhF, 8/76, 8D1128)

Gus'kov, S. Yu., and V. B. Rozanov (1). Spectrum and absolute yield of alpha particles in experiments with gas-filled glass targets for laser thermonuclear fusion. Kratkiye soobshcheniya po fizike, no. 4, 1976, 36-40. (RZhRadiot, 9/76, 9Ye227)

Kaliski, S., W. Babul, J. Bagrowski, L. Borowicz, S. Czekaj, S. Denus, H. Derentowicz, M. Fuczek, Z. Jankiewicz, M. Korzun, J. Makowski, S. Nagrama, W. Nowakowski, J. Szydlar, W. Szypula, R. Wodnicki, and J. Wolowski (NS). Explosion and laser pulse compression of matter. Journal of Technical Physics (Poland), v. 16, no. 4, 1975, 441-461. (RZhF, 9/76, 9D1102)

Knyazev, A. A., and B. G. Tsikin (99). Formation of a plane scattering wave during laser diagnostics of plasma flows. KE, no. 7, 1976, 1605-1607.

Koroleva, Ye. B., Yu. N. Lokhov, V. A. Petrunichev, A. A. Uglov, and I. I. Shvyrkova (0). Calculating the heating and evaporation of dispersed particles in a plasma. FiKhOM, no. 5, 1976, 25-27.

Kotsubanov, V. D., I. K. Nikol'skiy, and O. S. Pavlichenko (0). 10.6 μ tandem-interferometer for studying a pulsed plasma. IN: Sb 29, 25-27. (RZhF, 7/76, 7D1474)

Kurdyumov, S. P. (0). Physics of a plasma with superheated instability. IN: Sb 7, 165-177. (RZhRadiot, 7/76, 7Ye319)

Kutsyn, A. A., M. Ye. Maznichenko, and V. F. Solodovnikov (0). Ten-channel photoelectric spectrometer for measuring satellites near the He(I) forbidden lines. IN: Sb 29, 22-24. (RZhF, 7/76, 7D1430)

Maksimov, V. V., A. M. Orishich, and A. G. Ponomarenko (193). Passage of 10.6 μ laser radiation through a plasma in a magnetic field. ZhTF P, no. 18, 1976, 856-859.

Prokhorov, A. M., S. I. Anisimov, and P. P. Pashinin (1). Laser thermonuclear fusion. UFN, v. 119, no. 3, 1976, 401-424.

Pustovalov, V. V., V. P. Silin, and V. T. Tikhonchuk (0). Parametric generation of high frequency potential fields by high power optical fluxes in a laser plasma. IN: Sb 7, 231-249. (RZhRadiot, 7/76, 7Ye316)

Skrebov, V. N., and A. I. Eykhval'd (0). Study of an inhomogeneous plasma of a pulsed discharge in argon by means of laser diagnostic methods. Ois, v. 41, no. 1, 1976, 15-21.

Vinokurov, G. N., A. A. Mak, A. D. Starikov, V. G. Tuzov,
and A. N. Shatsev (0). Spherical irradiation of targets by
high power laser beams. KE, no. 7, 1976, 1591-1597.

Volosevich, P. P., and Ye. I. Levanov (0). Analyzing the basic
characteristics of a laser plasma by solutions of plane self-modeling
problems. IN: Sb 7, 89-109. (RZhMekh, 8/76, 8B377)

Zinchenko, V. I., Ya. A. Imas, and L. N. Kaporskiy (0).
Mechanism for lowering the threshold of air breakdown near a
dielectric surface. ZhTF, no. 8, 1976, 1768-1770.

III. MONOGRAPHS

Abakumov, B. M., I. A. Pan'shin, Ye. A. Podpalyy, B. M. Stepanov, and V. A. Fabrikov (0). Registratsiya opticheskoy informatsii na tonkiye magnitnyye plenki (Recording optical information on thin magnetic films). Moskva, Atomizdat, 1976, 120 p. (RZhRadiot, 7/76, 7Ye289)

Arutyunyan, V. M., G. G. Adonts, T. A. Papazyan, S. M. Sarkisyan, G. M. Arzumanyan, and T. E. Meliksetyan (37). Spektral'no-uglovoye raspredeleniye rezonansnogo VChPR v parakh kaliya (Spectral-angular distribution of resonant stimulated four-wave parametric scattering in potassium vapor). Yerevanskiy universitet. Preprint PLRF-76-01, 1976, 23 p. (RZhF, 9/76, 9D965)

Basov, N. G., ed. (1). Moshchnyye lazery i lazernaya plazma (High power lasers and laser plasma). AN SSSR. Fizicheskiy institut. Trudy, no. 85, 1976, 239 p.

Basov, N. G., V. I. Dolinina, A. F. Suchkov, and B. M. Urin (1). Teoreticheskoye issledovaniye generatsionnykh kharakteristik elektroionizatsionogo CO lazera (Theoretical study of the lasing characteristics of a CO electroionization laser). Fizicheskiy institut AN SSSR. Laboratoriya kvantovoy radiofiziki. Preprint, no. 1, 1976, 35 p. (RZhF, 9/76, 9D1050)

Boyko, V. A., S. A. Pikuz, and A. Ya. Fayenov (1). Rentgenovskaya spektroskopiya lazernoy plazmy. Ch. 1. Intensivnosti spektrov i diagnostika (X-ray spectroscopy of a laser plasma. Part 1. Spectral intensity and diagnostics). Fizicheskiy institut AN SSSR. Preprint, no. 17, 1976, 66 p. (RZhF, 8/76, 8D541)

Boyko, V. A., S. A. Pikuz, and A. Ya. Fayenov (1).
Rentgenovskaya spektroskopiya lazernoy plazmy. Ch. III.
Dliny voln i identifikatsiya spektrov Ne-ionov ($Z=26 \dots 42$) i
L-ionov zheleza (X-ray spectroscopy of a laser plasma. Part 3.
Wavelengths and spectral identification of Ne ions ($Z=26 \dots 42$)
and L ions in iron). Fizicheskiy institut AN SSSR. Preprint,
no. 20, 1976, 66 p. (RZhF, 9/76, 9D1094)

Buchinskiy, A. S., ed. (0). Kvantovaya radiotekhnika
(Quantum radio engineering). Itogi nauki i tekhniki.
Seriya Radiotekhnika, no. 9, Moskva, 1976, 175 p.
(RZhF, 9/76, 9D980)

Buzanova, L. K., and A. Ya. Gliberman (0). Poluprovodnikovyye
fotopriyemniki (Semiconductor photodetectors). Massovaya
radiobiblioteka, no. 902, Moskva, Energiya, 1976, 64 p.
(KL, 20/76, 16612)

Davydov, A. Ye., V. S. Abrukov, and S. A. Abrukov (346).
Primeneniye golograficheskoy interferometrii v issledovanii
vibratsionnogo goreniya gazov v tsilindricheskikh trubakh
(Using holographic interferometry to study vibrational heating of
gases in cylindrical tubes). Chuvashskiy universitet, Deposit at
VINITI, no. 425-76, 12 February 1976, 12 p. (RZhKh, 19AB,
10/76, 10B1154)

Gorbunov, V. I., and A. K. Stoyanov (197). Golograficheskiy
tomosintez na osnove psevdoshumovogo kodirovaniya rentgenogram
(Holographic tomosynthesis based on pseudonoise coding of x-ray
photographs). Tomskiy politekhnicheskii institut, Deposit at
VINITI, no. 1499-76, 4 May 1976, 6 p. (RZhF, 8/76, 8D1317)

Klejman, H. (NS). Lasery (Lasers). Warszawa, PWN, 1974,
474 p. (RZhF, 7/76, 7D1088)

Krekov, G. M., M. M. Krekova, E. V. Makiyenko, and I. E. Naats (78). Lazernoye zondirovaniye oblakov: teoreticheskiye aspekty (Laser probing of clouds: theoretical aspects). Institut optiki atmosfery SOAN. Preprint, no. 8, 1975, 68 p. (RZhGeofiz, 8/76, 8B312)

Lazernoye zondirovaniye atmosfery (Laser probing of the atmosphere). Institut optiki atmosfery SOAN, Moskva, Nauka, 1976, 156 p. (RZhRadiot, 9/76, 9Ye252)

Mikhaylov-Teplyakov, V. A., and M. P. Bogdanov (0). Avtomatizirovannaya lazernaya rezka materialov (Automated laser cutting of materials). Leningrad, Mashinostroyeniye, 1976, 207 p. (LC)

Orayevskiy, A. N., V. P. Pimenov, N. V. Rodionov, and V. A. Shcheglov (1). Teplovyye gazodinamicheskiye lazery na chastichnoy inversii (Thermal gasdynamic laser using partial inversion). Fizicheskiy institut AN SSSR. Preprint, no. 185, 1975, 45 p. (RZhF, 9/76, 9D1069)

Polyanichev, A. N., V. T. Tikhonchuk, and V. S. Fetisov (1). Gidrodinamika parametricheski pogloshchayushchey lazernoy plazmy (Hydrodynamics of a parametrically absorbing laser plasma). Fizicheskiy institut AN SSSR. Preprint, no. 15, 1976, 26 p. (RZhMekh, 8/76, 8B335)

Ryabov, S. G., G. N. Toropkin, and I. F. Usol'tsev (0). Pribory kvantovoy elektroniki: kharakteristiki, primeneniye, tendentsii razvitiya (Instruments of quantum electronics: characteristics, applications, trends in development). Moskva, Sovetskoye radio, 1976, 309 p. (LC)

Tsvetkov, V. V., and V. Ye. Gorbato (209). Issledovaniye vozmozhnostey postroyeniya upravlyayemogo transparenta na zhidkikh kristallakh dlya vvoda informatsii v opticheskiye postoyannyye zapominayushchiye ustroystva (Study of the possibilities of constructing a controlled transparency in liquid crystals for input of information into optical permanent memories). Institut tochnoy mekhaniki i vychislitel'noy tekhniki AN SSSR. Preprint, Moskva, 1975, 11 p. (RZhRadiot, 9/76, 9Ye207)

Vlasov, R. A., and S. P. Zhvavy (3). K teorii opticheskogo lavinnogo proboya prozrachnykh dielektrikov (Theory of the optical avalanche breakdown of transparent dielectrics). Institut fiziki AN BSSR. Preprint, no. 95, 1976, 36 p. (RZhF, 8/76, 8D1244)

Voytsekhovskaya, O. K., V. N. Marichev, I. V. Samokhvalov, Yu. S. Maushkin, A. A. Mitsel', and A. V. Sosnin (78). Metodicheskiye voprosy lazernogo zondirovaniya vodyanogo para atmosfery s ispol'zovaniyem effekta rezonansnogo pogloshcheniya (Methodological problems in laser probing of atmospheric water vapor using a resonant absorption effect). Institut optiki atmosfery SOAN. Preprint, no. 5. Tomsk, 1975, 24 p. (RZhGeofiz, 8/76, 8B96)

Yeletskiy, A. V., and V. A. Kutvitskiy (23). Dinamika usileniya impul'snogo lazera na HF (Dynamics of gain in a pulsed HF laser). Institut atomnoy energii, IAE-2581, Moskva, 1975, 8 p. (RZhF, 8/76, 8D1202)

Zaslavskiy, G. M., Yu. A. Kudenko, and A. P. Slivinskiy (210). Termodinamika i dinamika atomov pri fazovom perekhode v sverkhizluchatel'noye sostoyaniye (Thermodynamics and dynamics of atoms during phase transition to a superradiative state). Institut fiziki SOAN. Preprint IFSO-35f, 1976, 28 p. (RZhF, 9/76, 9D987)

Zaydel', A. N., G. V. Ostrovskaya, and Yu. I. Ostrovskiy (0). Tekhnika i praktika spektroskopii (Techniques and practice of spectroscopy). 2nd edition, revised and expanded. Moskva, Nauka, 1976, 392 p. (RZhF, 7/76, 7D1420)

IV. SOURCE ABBREVIATIONS

APP	-	Acta physica polonica
BAPS	-	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
DAN SSSR	-	Akademiya nauk SSSR. Doklady
DAN Tadzh	-	Akademiya Tadzhikskoy SSR. Doklady
DBAN	-	Bulgarska akademiya na naukite. Doklady
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	-	Fizika goreniya i vzryva
FiKhOM	-	Fizika i khimiya obrabotka materialov
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
GiK	-	Geodeziya i kartografiya
IAN Arm	-	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	-	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	-	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IT	-	Izmeritel'naya tekhnika
IVUZ Fiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	-	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	-	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	-	Kvantovaya elektronika
KL	-	Knizhnaya letopis'
LC	-	Received at Library of Congress
NM	-	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy

OiS	-	Optika i spektroskopiya
OMP	-	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	-	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PTE	-	Pribory i tekhnika eksperimenta
RiE	-	Radiotekhnika i elektronika
RZhF	-	Referativnyy zhurnal. Fizika
RZhGeofiz	-	Referativnyy zhurnal. Geofizika
RZhKh	-	Referativnyy zhurnal. Khimiya
RZhMekh	-	Referativnyy zhurnal. Mekhanika
RZhRadiot	-	Referativnyy zhurnal. Radiotekhnika
Sb1	-	Sbornik. Vsesoyuznaya konferentsiya po kogerentnoy i nelineynoy optike. 7th. 1976. Tezisy dokladov, v. 1. Tbilisi, Metsniyereba. 1976.
Sb2	-	Vsesoyuznoye soveshchaniye po inzhenernym problemam upravlyayemogo termoyadernogo sinteza, Leningrad, 1974. Doklady, v. 4. Leningrad, 1975.
Sb3	-	Sovremennyye zadachi v tochnykh naukakh, no. 1, Universitet druzhby narodov, Moskva, 1975.
Sb4	-	Itogi nauki i tekhniki. Radiotekhnika, no. 9, 1976.
Sb5	-	Aerofizicheskiye issledovaniya, no. 5. Novosibirsk, 1975.
Sb6	-	Vsesoyuznyy simpozium po plazmokhimii. 2nd. 1975. Part 1. Tezisy dokladov. Riga. Zinatiye, 1975.
Sb7	-	Ob'yedinenny seminar po vychislitel'noy fizike, Sukhumi, 1973. Materialy. Tbilisi. Tbilisskiy universitet, 1976.
Sb8	-	Nekotoryye voprosy fiziki. Yakutsk, 1975.
Sb9	-	Vsesoyuznyy simpozium po metodam aerofizicheskikh issledovaniy. 26-29 apr. Tezisy dokladov. Novosibirsk, 1976.
Sb10	-	Molekulyarnaya spektroskopiya vysokogo sverkhvysokogo razresheniya. Novosibirsk. Nauka, 1976.

- Sb11 - Radiotekhnika, no. 37, 1976.
- Sb12 - Problemy golografii, no. 5, 1975.
- Sb13 - Vsesoyuznoye soveshchaniye po fizike zhidkostey, 1974. Materialy. Samarkand, 1975.
- Sb14 - Svoystva materialov, primenyayemykh v ustroystvakh optoelektroniki. Krasnoyarsk, 1975.
- Sb15 - Spektroskopiya i lyuminestsensiya. Minsk, 1975.
- Sb16 - Problemy golografii, no. 6, Moskva, 1975.
- Sb17 - Problemy fiziki atmosfery, no. 13, Leningrad, Leningradskiy universitet, 1976.
- Sb18 - Nekotoryye zadachi gidrodinamiki i teploobmena, Novosibirsk, 1976.
- Sb19 - Voprosy energoperenosa v neodnorodnykh sredakh. Minsk, 1975.
- Sb20 - Povysheniye effektivnosti i nadezhnosti radioelektronnykh sistem, no. 4, Leningrad, 1976.
- Sb21 - Metody miniaturizatsii i avtomatizatsii proizvodstva komponentov EVM. Kiyev, 1975.
- Sb22 - Konstruirovaniye nauchnoy kosmicheskoy apparatury. Moskva, Nauka, 1976.
- Sb23 - Geologiya i gornoye delo. Moskva, 1975.
- Sb24 - Vsesoyuznaya shkola po golografii. 7th. Materialy. Leningrad. Nauka, 1975.
- Sb25 - Vsesoyuznaya konferentsiya "Besserebryannyye i neobychnyye fotograficheskiye protsessy." 2nd. Section 3. Tezisy dokladov. Kishinev, 1975.
- Sb26 - Svoystva veshchestv i stroyeniye molekul, no. 2, Kalinin, 1975.
- Sb27 - Avtomaticheskiye distantsionnyye i optiko-mekhanicheskiye metody issledovaniya bystroprotekayushchikh protsessov. Moskva, 1976.
- Sb28 - Kogerentno-opticheskiye dopplerovskiye ustroystva v gidroaerodinamicheskom eksperimente. Novosibirsk, 1974.

- Sb29 - Voprosy atomnoy nauki i tekhniki. Seriya Fizika plazmy i problemy upravlyayemoy termoyadernoy reaktsii, no. 2(4), Khar'kov, 1975.
- Sb30 - Vsesoyuznyy simpozium po termodinamike ionnogo obmena. 2nd. 1975. Rasshireniye tezisy dokladov. Minsk, 1975.
- Sb31 - Sovremennyye problemy razvitiya analiticheskogo priborostroyeniya. Kiyev, 1976.
- Sb32 - Nauchnyye pribory, no. 8, Moskva, 1975.
- Sb33 - Problemy izucheniya i osvoyeniya prirodnikh resursov Severa. Apatity, 1975.
- Sb34 - Radiotekhnika, no. 38, 1976.
- Sb35 - Fizika poluprovodniki i mikroelektronika, no. 2, Ryazan', 1976.
- TKiT - Tekhnika kino i televideniya
- Tr1 - AN SSSR. Fizicheskii institut. Trudy, no. 89, 1976.
- Tr2 - Moskovskiy fiziko-tekhnicheskii institut. Trudy. Seriya Radiotekhnika i elektronika, no. 9, 1975.
- Tr3 - Moskovskiy institut elektronnoy tekhniki. Sbornik nauchnykh trudov po problemam mikroelektroniki, no. 22, 1976.
- Tr4 - AN SSSR. Fizicheskii institut. Trudy, no. 85, 1976.
- Tr5 - VNIi fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy. Trudy, no. 24(54), 1975.
- Tr6 - Yerevanskiy universitet. Uchenyye zapiski. Yestestvennyye nauki, no. 3(130), 1975.
- Tr7 - Glavnaya geofizicheskaya observatoriya. Trudy, no. 357, 1976.
- Tr8 - AN GruzSSR. Institut geofiziki. Trudy, no. 36, 1975.
- Tr9 - Yerevanskiy politekhnicheskii institut. Mezhvuznyy sbornik nauchnykh trudov. Radiotekhnika i elektronika, no. 2, 1976.
- Tr10 - TsNII svyazi. Sbornik nauchnykh trudov, no. 2, 1975.

Tr11	-	Gosudarstvennyy gidrologicheskiy institut. Trudy, no. 237, 1976.
Tr12	-	Ministerstvo svyazi SSSR. Trudy uchebnykh institutov svyazi, no. 74, 1976.
Tr13	-	Saratovskiy politekhnicheskiy institut. Nauchnyye trudy, no. 94, 1975.
Tr14	-	Sakhalinskiy kompleksnyy NII Dal'nevostochnoy nauchnoy tsentra AN SSSR. Trudy, no. 34, 1975.
Tr15	-	Saratovskiy politekhnicheskiy institut. Nauchnyye trudy, no. 90, 1976.
Tr16	-	Trudy metrologicheskikh instutov SSSR. VNII metrologii, no. 183(243), 1975.
Tr17	-	Ryazanskiy radiotekhnicheskiy institut. Trudy, no. 68, 1975.
TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UFZh	-	Ukrainskiy fizicheskiy zhurnal
ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	-	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPFiK	-	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	-	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki
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186. Kishinev Pedagogical Institute (Kishinevskiy pedagogicheskiy institut).
187. Institute of Epidemiology and Microbiology im. Gameleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii im Gamelei AMN SSSR).
188. All Union Scientific Research Institute of Single Crystals, Khar'kov (VNI monokristallov).
189. Novochoerkassk Polytechnic Institute (Novochoerkasskiy politekhnicheskiy institut).
190. Central Scientific Research Institute of the Maritime Fleet (Tsentral'nyy NII morskogo flota).
191. Karaganda Polytechnic Institute (Karagandinskiy politekhnicheskiy institut).
192. Belorussian Technological Institute (Belorusskiy tekhnologicheskiy institut).
193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
194. VIOGEM
195. Northwest Correspondence Polytechnic Institute (Severo-Zapadnyy zaochnyy politekhnicheskiy institut).
196. Institute of Organic Chemistry im. Zelinskiy, AN SSSR (Institut organicheskoy khimii im Zelinskogo AN SSSR).
197. Tomsk Polytechnic Institute (Tomskiy politekhnicheskiy institut).
198. Institute of Mineral Fuels, Moscow (Institut goryuchikh iskopayemykh).
199. Moscow Institute of Electronic Machinery (Moskovskiy institut elektronnoy mashinostroyeniya).
200. Khar'kov Aviation Institute (Khar'kovskiy aviatsionnyy institut).
201. Institute for Problems of Information Transmission, AN SSSR, Moscow (Institut problem peredachi informatsii AN SSSR).
202. Institute of Electronics, AN UzSSR, Tashkent (Institut elektroniki AN UzSSR).
203. Institute of General and Inorganic Chemistry, AN ArmSSR, Yerevan (Institut obshchey i neorganicheskoy khimii AN ArmSSR).
204. Institute of General Genetics, AN SSSR, Moscow (Institut obshchey genetiki AN SSSR).
205. Moscow X-ray Radiological Scientific Research Institute (Moskovskiy NI rentgeno-radiologicheskiy institut).
206. Institute of Geology and Geophysics, Siberian Branch, AN SSSR, Novosibirsk (Institut geologii i geofiziki SOAN).
207. Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya).
208. Tula Polytechnic Institute (Tul'skiy politekhnicheskiy institut).
209. Moscow Institute of Precision Mechanics and Computer Technology (Moskovskiy institut tochnoy mekhaniki i vychislitel'noy tekhniki).
210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).
211. Kalinin Polytechnic Institute (Kalininskiy politekhnicheskiy institut).
212. Kuban' State University (Kubanskiy gos universitet).
213. Leningrad Technological Institute (Leningradskiy tekhnologicheskiy institut).
214. Kazan' Pedagogical Institute (Kazanskiy pedagogicheskiy institut).
215. Physico-technical Institute, AN TadzhSSR (Fiziko-tekhnicheskiy institut AN TadzhSSR).
216. Kazan' Aviation Institute (Kazanskiy aviatsionnyy institut).
217. Poltava Civil Engineering Institute (Poltavskiy inzhenerno-stroitel'nyy institut).
218. Second Moscow State Medical Institute im. Pirogov (Vtoroy Moskovskiy meditsinskiy institut im Pirogova).

219. Belorussian Polytechnic Institute, Minsk (Belorusskiy politekhnicheskiy institut).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
221. All Union Scientific Research Institute of Hydraulic Engineering (VNI gidrotekhniki).
222. Institute of Surgery im. Vishnevskiy. AMN SSSR (Institut khirurgii im Vishnevskogo AMN SSSR).
223. Central Institute for the Advanced Training of Physicians (Tsentral'nyy institut usovershenstvovaniya vrachey).
224. Yerevan Polytechnic Institute (Yerevanskiy politekhnicheskiy institut).
225. Institute for Problems of Oncology, AN UkrSSR (Institut problem onkologii AN UkrSSR).
226. Leningrad Branch of the Mathematical Institute, AN SSSR (Leningradskoye otdeleniye Matematicheskogo instituta AN SSSR).
227. Tashkent State University (Tashkentskiy gos universitet).
228. Institute of Theoretical Physics, AN UkrSSR (Institut teoreticheskoy fiziki AN UkrSSR).
229. Moscow Aviation Technological Institute (Moskovskiy aviatsionnyy tekhnologicheskoy institut).
230. Novosibirsk Institute for Engineers of Geodesy, Aerial Surveying and Cartography (Novosibirskiy institut inzhenerov geodezii, aerofotos"yemki i kartografi).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut, NIKFI).
232. State Scientific Research Institute of Glass (Gosudarstvennyy NII stekla).
233. Ivanovo-Frankov Pedagogical Institute (Ivanovo-Frankovskiy pedagogicheskoy institut).
234. Scientific Research Institute of Civil Aviation (NII grazhdanskoy aviatsii).
235. Tashkent State Pedagogical Institute (Tashkentskiy gos pedagogicheskoy institut).
236. All Union Scientific Research Institute of Mining Geomechanics and Surveying (VNI gornoy geomekhaniki i marksheyderskogo dela).
237. Department of the Physics of Nondestructive Control, AN BSSR (Otdel fiziki nerazrushayushchego kontrolya AN BSSR).
238. Institute of High Pressure Physics, AN SSSR (Institut fiziki vysokikh davleniy AN SSSR).
239. All Union State Planning, Surveying and Scientific Research Institute of Power Systems and Electric Power Networks (Vsesoyuznyy gosudarstvennyy proyektno-izyskatel'skiy i NII energeticheskikh sistem i elektricheskikh setey, ENERGOSET'PROYEKT).
240. Odessa State University (Odesskiy gos universitet).
241. Sverdlovsk State Pedagogical Institute (Sverdlovskiy gos pedagogicheskoy institut).
242. Kazakh State University, Alma Ata (Kazakhskiy gos universitet).
243. Radio Engineering Institute, AN SSSR (Radiotekhnicheskiy institut AN SSSR).
244. Moscow Scientific Research Institute of Television (Moskovskiy NI televizionnyy institut).
245. Novosibirsk State Pedagogical Institute (Novosibirskiy gos pedagogicheskoy institut).
246. Main Astronomical Laboratory, AN SSSR (Glavnaya astronomicheskaya laboratoriya AN SSSR).
247. Scientific Research Institute of Electrophysical Equipment im. Yefremov, Leningrad (NII elektrofizicheskoy apparatury im Yefremova).
248. Institute of Mechanics at Moscow State University (Institut mekhaniki pri Moskovskom gos universitete).
249. Omsk Agricultural Institute (Omskiy sel'skokhozyaystvennyy institut).
250. Sverdlovsk Mining Institute (Sverdlovskiy gornyy institut).
251. Tomsk Institute of Automatic Control Systems and Radioelectronics (Tomskiy institut avtomatizirovannykh sistem upravleniya i radioelektroniki).
252. Leningrad Institute of Nuclear Physics, AN SSSR (Leningradskiy institut yadernoy fiziki AN SSSR).
253. Kirghiz State University (Kirgizskiy gos universitet).
254. Moscow Civil Engineering Institute (Moskovskiy inzhenerno-stroitel'skiy institut).
255. Tallinn Polytechnical Institute (Tallinskiy politekhnicheskiy institut).

256. Far Eastern State University, Vladivostok (Dal'nevostochnyy gos universitet).
257. Comprehensive Institute of Natural Sciences, AN UzSSR, Nukus (Kompleksnyy institut yestestvennykh nauk AN UzSSR).
258. Institut of Theoretical Astronomy, AN SSSR (Institut teoreticheskoy astronomii AN SSSR).
259. Institut of Physics and Mathematics, AN LitSSR (Institut fiziki i matematiki AN LitSSR).
260. Kazan' Institute of Chemical Technology im. Kirov (Kazanskiy khimiko-tehnologicheskii institut im Kirova).
261. Rybinsk Evening Technological Institute (Rybinskiy vecherniy tekhnologicheskii institut).
262. Physicotechnical Institute, AN UzSSR (Fiziko-tekhnicheskii institut AN UzSSR).
263. Astrophysical Institute, AN KazSSR (Astrofizicheskii institut AN KazSSR).
264. Institute of Radiophysics and Electronics, AN ArmSSR (Institut radiofiziki i elektroniki AN ArmSSR).
265. Irkutsk Polytechnical Institute (Irkutskiy politekhnicheskii institut).
266. Leningrad Forestry-Technical Academy (Leningradskaya lesnotekhnicheskaya akademiya).
267. Laboratory of Electronics, AN BSSR, Minsk (Laboratoriya elektroniki AN BSSR).
268. Scientific Research Institute of Applied Mathematics and Mechanics at Tomsk State University (NII prikladnoy matematiki i mekhaniki pri Tomskom gos universitete).
269. Dnepropetrovsk Metallurgical Institute, Zaporozh'ye Branch (Dnepropetrovskiy metallurgicheskii institut, Zaporozhskiy filial).
270. Special Astrophysical Observatory, AN SSSR, Leningrad Branch (Spetsial'naya astrofizicheskaya observatoriya AN SSSR, Leningradskiy filial).
271. Ul'yanovsk State Pedagogical Institute im Ul'yanov (Ul'yanovskiy gos pedagogicheskii institut im Ul'yanova).
272. Military Engineering Radio Engineering Academy of Air Defense im Govorov (Voyenno-inzhenernaya radiotekhnicheskaya akademiya protivovozdushnoy oborony im Govorova).
273. Military Command Academy of Air Defense (Voyennaya komandnaya akademiya protivovozdushnoy oborony).
274. Donetsk Physico-technical Institute, AN UkrSSR (Donetskiy fiziko-tekhnicheskii institut AN UkrSSR).
275. Moscow Electrotechnical Institute of Communications (Moskovskiy elektrotekhnicheskii institut svyazi).
276. Institute of Physics of the Earth im. Shmidt, AN SSSR (Institut fiziki Zemli im. Shmidta AN SSSR).
277. Leningrad Institute of Aviation Instruments (Leningradskiy institut aviatsionnogo priborostroyeniya).
278. Samarkand State University (Samarkandskiy gos universitet).
279. Moscow Institute of the Petrochemical and Gas Industry im. Gubkin (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im Gubkina).
280. Moscow Scientific Research Institute of Eye Diseases im. Gel'mgol'ts (Moskovskiy NII glaznykh bolezney im. Gel'mgol'tsa).
281. Institute for Improving the Qualifications of Supervisory Workers and Specialists (Institut povysheniya kvalifikatsii rukovodyashchikh rabotnikov i spetsialistov).
282. Scientific Research Institute of Physics, Odessa (NII fiziki, Odessa).
283. Institute of Physics of Metals, AN UkrSSR, Kiev (Institut metallofiziki AN UkrSSR).
284. Dnepropetrovsk Metallurgical Institute (Dnepropetrovskiy metallurgicheskii institut).
285. Institute of Problems of Control (Institut problem upravleniya).
286. Institute of Biological Physics, ANSSSR, Pushchino (Institut biologicheskoy fiziki AN SSSR).
287. Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR).
288. Moscow Electrovacuum Instruments Plant (Moskovskiy zavod elektrovakuumnykh priborov).
289. Central Scientific Research Institute of Geodesy, Aerial Surveying and Cartography (Tsentral'nyy NII geodezii, aeros'yemki i kartografii).
290. All Union Scientific Research Institute of Medical Instrument Manufacture (VNII meditsinskogo priborostroyeniya).

291. Rostov-on-Don Institute of Railroad Transportation Engineers (Rostovskiy-na-Donu inzhenerov zheleznodorozhnogo transporta).
292. Naval Academy, Leningrad (Voyenno-morskaya akademiya).
293. Moscow Institute of Transportation Engineers (Moskovskiy institut inzhenerov transporta).
294. Institute of Chemistry, Bashkir Branch, AN SSSR (Institut khimii Bashkirskogo filiala AN SSSR).
295. Institute of Chemical Kinetics and Combustion, Siberian Branch, AN SSSR, Novosibirsk (Institut khimicheskoy kinetiki i goreniya SOAN).
296. Tbilis Branch of the All Union Correspondence Electrotechnical Institute of Communications (Tbilisskiy filial Vsesoyuznogo zaochnogo elektrotekhnicheskogo instituta svyazi).
297. Institute of Chemistry, AN SSSR, Gor'kiy (Institut khimii AN SSSR).
298. Institute of Electrodynamics, AN UkrSSR (Institut elektrodinamiki AN UkrSSR).
299. Institute of Electronics, AN BSSR (Institut elektroniki AN BSSR).
300. Institute of Cybernetics, AN UzSSR (Institut kibernetiki AN UzSSR).
301. All Union Scientific Research Institute of Luminophors and High Purity substances (VNI lyuminoforov i osobo chistyykh veshchestv).
302. State Scientific Research Institute of Radio (Gosudarstvennyy NII radio).
303. L'vov Branch of Mathematical Physics of the Institute of Mathematics, AN UkrSSR (L'vovskiy filial matematicheskoy fiziki Instituta matematiki AN UkrSSR).
304. Institute of Organic Chemistry, AN UkrSSR, Kiev (Institut organicheskoy khimii AN UkrSSR).
305. Central Construction Bureau of Motion Picture Equipment (Tsentral'noye konstruktorskoye byuro kinoapparatury).
306. State Oceanographic Institute (Gosudarstvennyy okeanograficheskiy institut).
307. Institute of Thermophysics and Electrophysics, AN EstSSR (Institut termofiziki i elektrofiziki AN EstSSR).
308. Moscow Institute of Railroad Transport Engineers (Moskovskiy institut inzhenerov zheleznodorozhnogo transporta).
309. Pervomayskugol' combine (Kombinat "Pervomayskugol'").
310. Kadiyevka Branch of the Kommunarok Mining-Metallurgical Institute (Kadiyevskiy filial Kommunarskogo gorno-metallurgicheskogo instituta).
311. All Union Scientific Research Institute of Mineral Resources, Moscow (VNII mineral'nogo syr'ya).
312. Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoj aviatsii).
313. Scientific Research Institute of Applied Physics at Irkutsk State University (NII prikladnoy fiziki pri Irkutskom gos universitete).
314. Moscow Oncological Scientific Research Institute im Gertsen (Moskovskiy NI onkologicheskij institut im Gertsena).
315. Tbilis Branch of the All-Union Scientific Research Institute of Metrology im Mendeleyev (Tbilisskiy filial VNII metrologii im Mendeleyeva).
316. Dagestan Polytechnic Institute, Makhachkala (Dagestanskiy politekhnicheskij institut).
317. Saratov Polytechnic Institute (Saratovskiy politekhnicheskij institut).
318. Scientific Research Institute of Direct Current (NII postoyannogo toka).
319. Alma-Ata State Medical Institute (Alma-Atinskiy-gosudarstvennyy meditsinskiy institut).
320. Kaliningrad State University (Kaliningradskiy gos universitet).
321. Mogilev Branch of the Institute of Physics, AN BSSR (Mogilevskiy filial Institute fiziki AN BSSR).
322. Lower Volga Civil Engineering Surveys Trust (Nizhne-Volzhskiy tres inzhenerno-stroitel'skikh izyskaniy).
323. Leningrad Institute of Motion Picture Engineers (Leningradskiy institut kinoinzhenerov).

324. Physicotechnical Institute, Sukhumi (Fiziko-tekhnicheskiy institut).
325. Scientific Research Institute of Physics, Rostov-on-Don (NII fiziki, Rostov-na-Donu).
326. Institute of Radioelectronics, AN SSSR (Institut radioelektroniki AN SSSR).
327. Novosibirsk Electrotechnical Institut (Novosibirskiy elektrotekhnicheskiy institut).
328. All-Union Civil Engineering Correspondence Institut, Moscow (Vsesoyuznyy zaochnyy inzhenerno-stroitel'nyy institut).
329. Leningrad Scientific Research and Planning Institute of the Basic Chemical Industry (Leningradskiy NI i proyektnyy institut osnovnoy khimicheskoy promyshlennosti).
330. Microbiology Sector, AN AzSSR (Sektor mikrobiologii AN AzSSR).
331. Rovenskiy Pedagogical Institute im Manuil'skiy (Rovenskiy pedagogicheskiy institut im Manuil'skogo).
332. Frunze Polytechnic Institute (Frunzinskiy politekhnicheskiy institut).
333. Chernorechenskiy Chemical Combine, Dzerzhinsk (Chernorechenskiy khimicheskoy kombinat).
334. Scientific Research Institute of Applied Physical Problems at Belorussian State University (NII prikladnykh fizicheskikh problem pri Belorusskom gos universitete).
335. Institute of Electrochemistry, AN SSSR (Institut elektrokhimii AN SSSR).
336. Scientific Research Institute of Nuclear Physics, Electronics and Automation at Tomsk Polytechnic Institute (NII yadernoy fiziki, elektroniki i avtomatiki pri Tomskom politekhnicheskoy institut).
337. Computer Center, AN SSSR (Vychislitel'nyy tsentr AN SSSR).
338. Ministry of Geology, USSR (Ministerstvo geologii SSSR).
339. Computer Center, AN ArmSSR (Vychislitel'nyy tsentr AN ArmSSR).
340. All-Union Scientific Research Institute of Light and Textile Machine Building, Moscow (VNII legkogo i tekstil'nogo mashinostroyeniya).
341. All-Union Scientific Research Institute of Heat Engineering in Metallurgy, Sverdlovsk (VNII metallurgicheskoy teplotekhniki).
342. Scientific Research, Design and Technological Institute of Heavy Machine Building, Ural Heavy Machinery Plant (NI konstruktorsko-tekhnologicheskoy institut tyazhelogo mashinostroyeniya Ural'skogo zavoda tyazhelogo mashinostroyeniya, NIITYaZhMASH Uralmashzavoda).
343. North Caucasus Scientific Center of Higher Education (Severo-Kavkazskiy nauchnyy tsentr vysshey shkoly).
344. All-Union Scientific Research Institute of Economics of Mineral Raw Materials and Geological Exploration (VNII ekonomiki mineral'nogo syr'ya i geologorazvedochnykh rabot, VIEMS).
345. Institute of Physical Problems, Siberian Branch AN SSSR (Institut fizicheskikh problem SOAN).
346. Chuvash State University (Chuvashskiy GU).
347. Ukrainian Hydrometeorological Scientific Research Institute (Ukrainskiy NI gidrometeorologicheskoy institut).
348. Volgograd State Pedagogical Institute im Serafimovich (Volgogradskiy gosudarstvennyy pedagogicheskiy institut im Serafimovicha).
349. Donetsk Physicotechnical Institute (Donetskiy fiziko-tekhnicheskiy institut).
350. Institute of Applied Geophysics, AN SSSR (Institut prikladnoy geofiziki AN SSSR).
351. All-Union Scientific Research Institute of Physicochemical and Radiotechnical Measurements (VNII fiziko-khimicheskikh i radiotekhnicheskikh izmereniy).
352. Moscow Department of the Scientific Research Institute of Direct Current (Moskovskoye otdeleniye NII postoyannogo toka).
353. First Leningrad Medical Institute (Pervyy Leningradskiy meditsinskiy institut).
354. Moscow Medical Stomatological Institute (Moskovskiy meditsinskiy stomatologicheskoy institut).
355. All-Union Correspondence Institute of Mechanical Engineering (Vsesoyuznyy zaochnyy mashinostroitel'nyy institut).
356. All-Union Scientific Research Institute of Autogenous Machine Building (VNII avtogennoy mashinostroyeniya).

357. Ukrainian Scientific Research Institute of Metals, Khar'kov (Ukrainskiy NII metallov).
358. Institute of Problems of Strength, AN UkrSSR, Kiev (Institut problem prochnosti AN UkrSSR).
359. All-Union Scientific Research Institute of Transportation Construction (VNII transportnogo stroitel'stva).
360. Kazan' Mountain Astronomical Observatory (Kazanskaya gornaya astronomicheskaya observatoriya).
361. Institute of Physiology im Karayev, AN AzSSR (Institut fiziologii im Karayeva AN AzSSR).
362. Leningrad Pedagogical Institute (Leningradskiy pedagogicheskiy institut).
363. Kiev State Pedagogical Institute (Kiyevskiy gos pedagogicheskiy institut).
364. Institute of Machine Science, Moscow (Institut mashinovedeniya).
365. Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskiy institut).
366. Institute of Linguistics im Potebin, Ukr SSR, Kiev (Institut yazykovedeniya im Potebina Ukr SSR).
367. All-Union Scientific Research Institute of Glass (VNII stekla).
368. Far Eastern Polytechnical Institute, Vladivostok (Dal'nevostochnyy politekhnicheskiy institut).
369. Krasnoyarsk Institute of Nonferrous Metals im Kalinin (Krasnoyarskiy institut tsvetnykh metallov im Kalinina).
370. Institute of Colloid Chemistry and Chemistry of Water, AN UkrSSR (Institut kolloidnoy khimii i khimii vody AN UkrSSR).
371. Odessa Higher Marine Engineering College (Odesskoye vyssheye inzhenernoye morskoye uchilishche).
372. Khabarovsk Branch of the All Union Scientific Research Institute of Physico-Technical and Radio-Technical Measurements (Khabarovskiy filial VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy).
373. All-Union Scientific Research Institute of Sea Fisheries and Oceanography (VNII morskogo rybnogo khozyaystva i okeanografii).
374. Ural Scientific Research Institute of the Pipe Industry (Ural'skiy NII trubnoy promyshlennosti).
375. Department of Polymer Physics, AN SSSR, Perm' (Otdel fiziki polimerov AN SSSR).
376. Kalinin State University (Kalininskiy GU).
377. Central High Altitude Hydrometeorological Observatory (Tsentral'naya vysotnaya gidrometeorologicheskaya observatoriya).
378. L'vov Electric Measuring Instruments Plant (L'vovskiy zavod elektroizmeritel'nykh priborov).
379. Gomel' State University (Gomel'skiy GU).
380. Odessa Polytechnical Institute (Odesskiy politekhnicheskiy institut).
381. Institute of Hygiene im Erisman (Institut gig yeny im Erismana).
382. Zaporozh'ye Machine Building Institute (Zaporozhskiy mashinostroitel'skiy institut).
383. Institute of Physicochemical Bases of Processing Mineral Resources, Siberian Branch AN SSSR, Novosibirsk (Institut fiziko-khimicheskikh osnov pererabotki mineral'nogo syr'ya SOAN).
384. All-Union Scientific Research, Planning and Design Institute of Metallurgical Machinery (VNI i proyektno-konstruktorskiy institut metallurgicheskogo mash nostroyeniya, VNIIMetmash).
385. Chernovtsy Department of Material Science of the Institute of Semiconductors, AN UkrSSR (Chernovitskoye otdeleniye materialovedeniya Instituta poluprovodnikov AN UkrSSR).
386. Leningrad Hydrometeorological Institute (Leningradskiy gidrometeorologicheskiy institut).
387. Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, AN SSSR (Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, IGEM)
388. Institute of History of Natural Science and Technology, AN SSSR, Moscow (Institut istorii yestestvoznaniya i tekhniki AN SSSR).

389. Yerevan Scientific Research Institute of Mathematics and Mechanics (Yerevanskiy NII matematiki i mekhaniki).
390. Novosibirsk Electrotechnical Institute of Communications (Novosibirskiy elektrotekhnicheskiy institut svyazi).
391. All-Union Scientific Research Institute of Analytical Instrument Manufacture, Kiev (VNII analiticheskogo priborostroyeniya).
392. Ust'-Kamenogorsk Road Building Institute (Ust'-Kamenogorskiy stroitel'no-dorozh. yy institut).
393. Sakhalin Complex Scientific Research Institute of the Far East Science Center, AN SSSR (Sakhalinskiy kompleksnyy NII Dal'nevostochnogo nauchnogo tsentra AN SSSR)
394. State Hydrological Institute (Gosudarstvenny gidrologicheskiy institut).