BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS (II)
MAY-JUNE 1979
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 41
MAY - JUNE 1979

Date of Report
10 January 1980

Vice Director for Foreign Intelligence
Defense Intelligence Agency

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

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

Approved for public release; distribution unlimited

107300
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, No. 41
MAY - JUNE 1979

Approved for public release; distribution unlimited

This is the Soviet Laser Bibliography for May-June 1979 and is no. 41 in a continuing series on Soviet Laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.
Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is May-June 1979, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

Section II H, Laser Measurement Applications, has a new subsection, Laser Spectroscopy.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.
SOVIET LASER BIBLIOGRAPHY, MAY - JUNE 1979

TABLE OF CONTENTS

I. BASIC RESEARCH

A. Solid State Lasers

1. Crystal: Ruby .................................................

2. Crystal: Rare-Earth Activated
   a. Nd$^{3+}$ ............................................. 1
   b. Er$^{3+}$ ........................................... 1
   c. La$^{3+}$ ........................................... 1

3. Crystal: Miscellaneous .............................. 2

4. Semiconductor: Simple Junction
   a. GaAs ............................................. 2
   b. CdS .............................................. 3

5. Semiconductor: Mixed Junction .................

6. Semiconductor: Heterojunction ................... 3

7. Semiconductor: Theory ................................. 4

8. Glass: Nd .................................................. 5

9. Glass: Miscellaneous ......................................

B. Liquid Lasers

1. Organic Dyes
   a. Rhodamine ............................................. 5
   b. Polymethine ......................................... 6
   c. Phthalimide ......................................... 6
   d. Miscellaneous Dyes .................................. 6

2. Inorganic Liquids ...........................................

C. Gas Lasers

1. Simple Mixtures
   a. He-Ne .................................................. 7
2. Molecular Beam and Ion

a. CO₂ ............................................. 8
b. CO .............................................. 9
c. Noble Gas ...................................... 10
d. N₂ .................................................. 10
e. I₂ .................................................. 11
f. NH₃ .................................................. 11
g. Submillimeter .................................. 11
h. Metal Vapor ................................... 12
i. Gasdynamic ..................................... 13

3. Excimer ........................................ 15

4. Theory .......................................... 16

D. Chemical Lasers

1. F₂+H₂(D₂) .................................... 17
2. Photodissociative ............................. 17
3. Transfer ...................................... ---

E. Components

1. Resonators
   a. Design and Performance .................... 18
   b. Mode Kinetics ................................ 18

2. Pump Sources ................................... 19

3. Deflectors .................................... 19

4. Diffraction Gratings .......................... 19

5. Mirrors ......................................... 20

6. Detectors ...................................... 20

7. Modulators .................................... 21

F. Nonlinear Optics

1. Frequency Conversion ......................... 23

2. Parametric Processes .......................... 25

3. Stimulated Scattering
   a. Raman ......................................... 25
   b. Brillouin ..................................... 26
   c. Miscellaneous Scattering .................. 26
4. Self-focusing ....................................... 26
5. Acoustic Interaction ................................. 26
6. General Theory ...................................... 27

G. Spectroscopy of Laser Materials ......................... 29
H. Ultrashort Pulse Generation ............................ 30
J. Crystal Growing ...................................... ---
K. Theoretical Aspects of Advanced Lasers ................. 31
L. General Laser Theory .................................. 31

II. LASER APPLICATIONS

A. Biological Effects ...................................... 33
B. Communications Systems ................................. 33
C. Beam Propagation
   1. In the Atmosphere ................................... 37
   2. In Liquids .......................................... 40
   3. Theory .............................................. 40
D. Computer Technology .................................... 41
E. Holography ............................................. 43
F. Laser-Induced Chemical Reactions ......................... 50
G. Measurement of Laser Parameters ......................... 52
H. Laser Measurement Applications
   1. Direct Measurement by Laser ......................... 55
   2. Laser-Excited Optical Effects ...................... 62
   3. Laser Spectroscopy ................................... 68
J. Beam-Target Interaction
   1. Metal Targets ....................................... 70
   2. Dielectric Targets .................................... 71
   3. Semiconductor Targets ............................... 72
   4. Miscellaneous Studies ............................... 73
K. Plasma Generation and Diagnostics ......................... 74
III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS ........ 77
IV. SOURCE ABBREVIATIONS ........................................... 80
V. AUTHOR AFFILIATIONS .............................................. 84
VI. AUTHOR INDEX ....................................................... 87
I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

2. Crystal: Rare-Earth Activated

a. $\text{Nd}^{3+}$


b. $\text{Er}^{3+}$


c. $\text{La}^{3+}$

4. Kaminskiy, A.A. (13). Inorganic materials with $\text{La}^{3+}$ ions for obtaining stimulated emission in the 3 micron range. NM, no. 6, 1979, 1028-1036.
3. Crystal: Miscellaneous

   Luminescence and stimulated emission from $M_A$ color centers in
crystals of the fluorite type. IAN Fiz, no. 6, 1979, 1119-1124.

   periodic pulsed laser using a LiF crystal with $F^+$ centers and
   pumped by the second harmonic radiation from a YAG:Nd$^{3+}$ laser.
   DAN SSSR, v. 246, no. 1, 1979, 72-74.

   no. 6, 1979, 1169-1178.

8. Parfianovich, I.A., V.M. Khulugurov, B.D. Lobanov, and N.T.
   Maksimova (313). Luminescence and stimulated emission from color
   centers in LiF. IAN Fiz, no. 6, 1979, 1125-1132.

4. Semiconductor: Simple Junction

a. GaAs

   e-beam pumped GaAs lasers. KE, no. 5, 1979, 1109-1110.

10. Yelesin, V.F., A.I. Yerko, and A.I. Larkin (16). Observation of a
    spectral dip in spontaneous emission and of lasing saturation in
    single-mode semiconductor lasers. ZhETF P, v. 29, no. 11, 1979,
    709-713.
Fasing mechanism in an uncooled doped CdS laser. ZhTF P, no. 9, 1979, 525-531.

5. Semiconductor: Mixed Junction

6. Semiconductor: Heterojunction

KE, no. 6, 1979, 1264-1270.


KE, no. 5, 1979, 972-978.


20. Kryukova, I.V., V.I. Leskovich, and Ye.V. Matveyenko (0). *Recombination mechanism of nonequilibrium charge carriers in solid solutions of In$_x$Ga$_{1-x}$As$_{1-y}$Sb$_y$ during e-beam pumping in the 1.6-3 μ range.* ZhTF P, no. 12, 1979, 717-722.

7. Semiconductor: Theory


8. Glass: Nd


9. Glass: Miscellaneous

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine


b. Polymethine


c. Phthalimide


d. Miscellaneous Dyes


2. Inorganic Liquids

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

38. Bagayev, S.N., A.S. Dychkov, and V.P. Chebotayev (0). \textit{Frequency stabilized gas laser with a wide 0.44 Hz emission line}. ZhTF P, no. 10, 1979, 590-595.


2. Molecular Beam and Ion

a. CO$_2$


48. Zaroslov, D.Yu., N.V. Karlov, I.O. Kovalev, G.P. Kuz'min, and A.M. Prokhorov (1). Obtaining lasing at the 10^{00}_0-01^{11}₀ and 02^{00}_0-01^{11}₀ transitions of a CO₂ molecule in a pulsed gas discharge. ZhTF P, no. 12, 1979, 759-764.


c. Noble Gas


d. N₂


e. I₂


f. NH₃


g. Submillimeter


1. Gasdynamic


78. Tunik, Yu.V. (0). Radiation power of a relaxing supersonic gas flow. Sb 4, 103-114. (RZhMekh, 6/79, 6B285)


80. Vargin, A.N., V.V. Gogokhiya, V.K. Konyukhov, and A.I. Lukovnikov (1). Using a phase method to study vibrational relaxation of a CO$_2$ molecule. Tr 1, 5-49.


83. Volkov, A.Yu., A.I. Demin, and A.V. Krauklis (1). Comparing gasdynamic CO$_2$ and N$_2$O lasers by their radiation energy in an admixing scheme. Tr 1, 184-189.
3. Excimer


86. Basov, N.G., V.S. Zuyev, A.V. Kanayev, L.D. Mikheyev, and D.B. Stravrovskiy (1). Lasing at the bound-free $C(3/2) - A(3/2)$ transition of an XeF molecule during photodissociation of XeF$_2$. KE, no. 5, 1979, 1074.


88. Grinchenko, B.I. (74). Forming exciplex molecules from recombination of negative halide ions and atomic charge exchange in alkali metals. TVT, no. 3, 1979, 644-646.

89. Razhev, A.M. (0). Selecting a halogen-containing gas to obtain new lasing lines in electric-discharge lasers. Sb 5, 123-128. (RZhF, 5/79, 5D1066)
90. Tarasenko, V.F., V.A. Tel'nov, and A.I. Fedorov (466). XeCl laser, pumped by a discharge with intensive preionization. IVUZ Fiz, no. 6, 1979, 91-93.


4. Theory


D. CHEMICAL LASERS

1. $F_2 + H_2 (D_2)$


2. Photodissociative

3. Transfer

E. COMPONENTS

1. Resonators

a. Design and Performance


b. Mode Kinetics


2. Pump Sources

109. Aleksandrov, V.V., G.S. Leonov, and V.I. Vasil'yev (0). Halogen incandescent lamp. Author's certificate USSR, no. 630679, published 29 September 1978. (RZhRadiot, 6/79, 6Ye313)


3. Deflectors


112. Fridlyand, I.V. (144). Accuracy, speed and energy for controlling an optomechanical deflector with optical correction. Tr 2, 9-19. (RZhRadiot, 5/79, 5Ye200)


4. Diffraction Gratings


5. Mirrors


6. Detectors


7. Modulators


Device using photochromic materials to shape dye laser pulses.

Author's certificate USSR, no. 626836, published 7 September 1978.
(RZhRadiot, 5/79, 5Ye330)


Wide-aperture optical switch based on a saturating filter for the
1.06 μ wavelength. ZhTF P, no. 12, 1979, 733-735.

Kholodar' (5). Method for dynamic conversion of optical beams.
Author's certificate USSR, no. 603276, published 26 November 1978.
(RZhRadiot, 5/79, 5Ye423)
F. NONLINEAR OPTICS

1. Frequency Conversion


137. Davydov, B.L., V.F. Zolin, L.G. Koreneva, and Ye.A. Lavrovskiy (0). Device for converting the frequency of electromagnetic radiation. Author's certificate USSR, no. 457425, published 15 August 1978. (RZhRadiot, 6/79, 6Ye138)


146. Solomatin, V.S., A.N. Meleshko, and V.V. Krasnikov (2). \textit{Resonance frequency conversion in Na vapor}. \textit{KE}, no. 6, 1979, 1326-1329.


149. Voronin, E.S., V.V. Ivakhnik, V.M. Petnikova, V.S. Solomatin, and V.V. Shuvalov (2). \textit{Compensation of phase distortion during three-frequency parametric interaction}. \textit{KE}, no. 6, 1979, 1304-1309.
2. Parametric Processes


3. Stimulated Scattering

a. Raman


b. Brillouin


c. Miscellaneous Scattering


4. Self-focusing


5. Acoustic Interaction

Theory of thermo-optical generation of nonstationary acoustic fields.  
Akusticheskiy zhurnal, no. 3, 1979, 383-394.


Sb 8, 324-330. (RZhMekh, 6/79, 6B268)

164. Yegorov, Yu.V., and V.N. Ushakov (0). Experimental study on an acoustooptic correlator with a two-dimensional threshold transparency.  
RiE, no. 5, 1979, 1092-1094.

Kristal, no. 3, 1979, 617-618.

6. General Theory


DAN SSSR, v. 246, no. 5, 1979, 1088-1091.


G. SPECTROSCOPY OF LASER MATERIALS


H. ULTRASHORT PULSE GENERATION


J. CRYSTAL GROWING

K. THEORETICAL ASPECTS OF ADVANCED LASERS


L. GENERAL LASER THEORY


201. Roshchin, N.V. (0). Dynamic regimes for a solid state laser with a nonlinear filter in the resonator. Sb 10, 104-120. (RZhF, 6/79, 6D1468)
II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS


B. COMMUNICATIONS SYSTEMS


228. Petrov, M.I., and Ye.A. Kuzin (0). **Optical fiber lines for transmitting information.** Sb 11, 89-103. (RZhRadiot, 6/79, 6Ye290)


C. BEAM PROPAGATION

1. In the Atmosphere


238. Katsev, I.L., and E.P. Zege (3). Determining the half-width and intensity of absorption lines in atmospheric gases by laser probing. FA10, no. 6, 1979, 627-632.


250. Zemlyanov, A.A., V.V. Kolosov, and A.V. Kuzikovskiy (78). Wave beam distortions during thermal self-action in a droplet medium. KE, no. 6, 1979, 1148-1154.

2. In Liquids


255. Kan, V. (64). Four point coherence function of frequency-differentiated waves in a turbulent medium. IVUZ Radiofiz, no. 5, 1979, 598-603.


3. Theory

257. Aksenov, V.P., and V.L. Mironov (64). Applying spectral analysis to the problem of optical wave propagation in turbulent media. IVUZ Radiofiz, no. 5, 1979, 604-614.


D. COMPUTER TECHNOLOGY


E. HOLOGRAPHY


275. Eleventh All-Union Seminar on Coherent Optics and Holography, Rostov, 25 March - 1 April 1979. TKiT, no. 6, 1979, 75-76.


279. Avrorin, A.V., Ye.A. Kopylov, V.V. Kuznetsov, and V.M. Gruznov (0). Device for recording SHF holograms. Author's certificate USSR, no. 628447, published 24 August 1978. (RZhRadiot, 6/79, 6Ye481)


286. Brekhovskikh, G.L., and A.I. Sokolovskaya (0). *Recording and reconstruction of nonstationary holograms in nonlinear media under stimulated Raman scattering.* Sb 11, 81-88. (RZhRadiot, 6/79, 6Ye479)


288. Davydova, I.N. (0). *Study of the properties of aspectograms as applied to a scheme for a foreshortening-holographic motion picture camera.* Sb 14, 73-84.


49


F. LASER-INDUCED CHEMICAL REACTIONS


G. MEASUREMENT OF LASER PARAMETERS


H. LASER MEASUREMENT APPLICATIONS

1. Direct Measurement by Laser

Performance characteristics of a frequency-stabilized ring laser with a methane cell. KE, no. 5, 1979, 917-925.


375. Fedin, V.P. (5). Narrow nonlinear resonances in a low-pressure absorbing medium. UFZh, no. 6, 1979, 867-869.


396. Marusiy, T.Ya., and A.I. Khizhnyak (5). Linear stage of field development in a solid state traveling wave ring laser. KE, no. 6, 1979, 1345-1347.


402. Seregin, V.V. (30). Time selection for signal measurement in a gyrooptic compass. IVUZ Priboro, no. 6, 1979, 64-68.


2. Laser-Excited Optical Effects


417. Artamonov, V.V., M.Ya. Valakh, and N.I. Vitrikhovskiy (6). Effect of resonant interaction on the nature of phonon spectra detuning in ZnTe$_x$Se$_{1-x}$ crystals. FTT, no. 6, 1979, 1773-1776.


Frequency selection of Nd$^{3+}$ ions in glass under monochromatic laser 
excitation at the $^4I_{9/2} + ^4F_{3/2}$ resonant transition. ZhETF P, v. 29, 
no. 11, 1979, 696-700.

of GaAs$_{1-x}$Sb$_x$ ($0 < x < 0.3$). FTP, no. 6, 1979, 1235-1238.

423. Buldakov, M.A., I.I. Matrosov, and T.N. Popova (0). Determining the anisotropy of the tensor of polarizability in O$_2$ and N$_2$ molecules. 
OiS, v. 46, no. 5, 1979, 867-869.


432. Kravchenko, A.F., V.V. Nazintsev, A.P. Savchenko, and A.S. Terekhov (10). Quenching of exciton luminescence by a surface electric field in a semiconductor. FTT, no. 6, 1979, 1904-1906.


radiation resonantly coincident with the frequency of molecular
vibration, on the fluorescence spectrum of anthracene vapor.

Phonon spectral study on phase transitions in cyclohexane and

438. Nazarenkov, F.A., and N.A. Rastrenenko (O). Optical properties of

measuring absorption in the IR region. OMP, no. 6, 1979, 29-30.

Kinetics of phosphorescence quenching and brightening of thalimide
acetyl derivatives in polar solutions. OiS, v. 46, no. 5, 1979,
898-903.

441. Peykov, P.Kh. (NS). Effect of repeated oxidation on the optical
properties of silicon. DBAN, no. 7, 1978, 835-836. (RZhF, 5/79,
5D900)

442. Polivanov, Yu.N. (1). Appearance of anharmonic effects in Raman
scattering spectra of HIO crystals. FTT, no. 6, 1979, 1884-1887.

in rhenium single crystals. FTT, no. 6, 1979, 1615-1619.


452. Vodop'yanov, L.K., L.V. Golubev, and D.I. Bletskan (118). Long-wave optical phonons in $\text{GeSe}_{x}\text{S}_{1-x}$ solid solutions. FTT, no. 6, 1979, 1837-1839.

3. Laser Spectroscopy


460. Luk'yanenko, S.F., and I.S. Tyryshkin ('). Processing of absorption spectral measurements recorded by a high-speed laser spectrometer. Deposit at VINITI, no. 1513-79, 197'. (Cited in IVUZ Fiz, no. 6, 1979, 123)


J. BEAM-TARGET INTERACTION

1. Metal Targets


2. Dielectric Targets


3. Semiconductor Targets


4. Miscellaneous Studies

486. Nemchinov, L.V., I.A. Polozova, V.V. Svettsov, and V.V. Shuvalov (276). Planar laser explosion at a target in the air. KE, no. 6, 1979, 1223-1230.


K. PLASMA GENERATION AND DIAGNOSTICS


74


506. Pikalov, V.V., and V.P. Fedosov (0). Determining the local characteristics of elliptically-shaped plasma objects. Sb 24, 190-199. (RZhF, 5/79, 5G405)


509. Volenko, V.V., and V.B. Kryuchenkov (0). Calculating the irradiation symmetry of spherical laser targets. KE, no. 6, 1979, 1343-1345.
III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS


(KL, 25/79, 24088)


(KL, 26/79, 24412)


IV. SOURCE ABBREVIATIONS

(CIRC Codens)

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWAT</td>
<td>Biuletyn Wojskowej akademii technicznej J. Dabrowskiego</td>
</tr>
<tr>
<td>DAN B</td>
<td>Akademiya nauk Belorusskoy SSR. Doklady</td>
</tr>
<tr>
<td>DAN SSSR</td>
<td>Akademiya nauk SSSR. Doklady</td>
</tr>
<tr>
<td>DAN Uz</td>
<td>Akademiya nauk Uzbekskoy SSR. Doklady</td>
</tr>
<tr>
<td>DBAN</td>
<td>Bulgarska akademiya na naukite. Doklady</td>
</tr>
<tr>
<td>Elek</td>
<td>Elektronika [Poland]</td>
</tr>
<tr>
<td>EOM</td>
<td>Elektronnaya obrabotka materialov</td>
</tr>
<tr>
<td>FA10</td>
<td>Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana</td>
</tr>
<tr>
<td>FGiV</td>
<td>Fizika goreniya i vzryva</td>
</tr>
<tr>
<td>FİKhOM</td>
<td>Fiziki i khimiya obrabotka materialov</td>
</tr>
<tr>
<td>FTP</td>
<td>Fizika i tekhnika poluprovodnikov</td>
</tr>
<tr>
<td>FTT</td>
<td>Fizika tverdogo tela</td>
</tr>
<tr>
<td>IAN Arm</td>
<td>Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika</td>
</tr>
<tr>
<td>IAN B</td>
<td>Akademiya nauk Belorussskoy SSR. Izvestiya. Seriya fiziko-matematicheskih nauk</td>
</tr>
<tr>
<td>IAN Fiz</td>
<td>Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya</td>
</tr>
<tr>
<td>IAN Khim</td>
<td>Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya</td>
</tr>
<tr>
<td>IAN Lat</td>
<td>Akademiya nauk Latviyskoy SSR. Izvestiya</td>
</tr>
<tr>
<td>IT</td>
<td>Izmeritel'naya tekhnika</td>
</tr>
<tr>
<td>IVUZ Fiz</td>
<td>Izvestiya vysshikh uchebnykh zavedeniy. Fizika</td>
</tr>
<tr>
<td>IVUZ Priboro</td>
<td>Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye</td>
</tr>
<tr>
<td>IVUZ Radioelektr</td>
<td>Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika</td>
</tr>
<tr>
<td>IVUZ Radiofiz</td>
<td>Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika</td>
</tr>
</tbody>
</table>
JTP (JTPHD) Journal of Technical Physics [Poland]
KE (KVEKA) Kvantovaya elektronika
KhVE (KHVKA) Khimiya vysokikh energiy
KL (KNLTA) Knizhnaya letopis'
KLDV (KLDVA) Knizhnaya letopis'. Dopолнительный выпуск
Kristal (KRISA) Kristallografiya
KSpF (KRSFA) Kratkie soobshcheniya po fizike
MITOM (MTOMA) Metallovedeniye i termicheskaya obrabotka materialov
MZhiG (IMZGA) Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM (IVNMA) Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OIS (OPSPA) Optika i spektroskopiya
OMP (OPMPA) Optiko-mekhanicheskaya promyshlennost'
Otkr izobr (OIPOV) Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
Opt app (OPAPB) Optica applicata [Poland]
PTE (PRTEA) Pribory i tekhnika eksperimenta
RiE (RAELA) Radiotekhnika i elektronika
RZhF (RZFZA) Referativnyy zhurnal. Fizika
RZhGeofiz (GZGFA) Referativnyy zhurnal. Geofizika
RZhMekh (RZMKA) Referativnyy zhurnal. Mekhanika
RZhRadiot (RZRAB) Referativnyy zhurnal. Radiotekhnika


Sb12 Informatsionnyye materialy po gidrometeorologicheskim priboram i metodam nablyudeniy, no. 74, NII gidrometeorologicheskogo priborostroeniya, 1978.


Sb18 Effektivnost' kapital'nykh vlozheniy i novoy tekhniki, no. 3, Cheboksary, 1978.


Sb21 Radiofizika i issledovaniye svoystv veshchestva, no. 3, Omsk, 1978.
Sb22 Problemy golografii, no. 9, 1977.
Sb23 Magnitnyye poluprovodnikovyye shpinelii tipa CdCr\textsubscript{2}Se\textsubscript{4}. Kishinev, 1978.

TKiT (TKTEA) Tekhnika kino i televedeniya
Tr1 Trudy Fizicheskiy institut AN SSSR. Trudy, no. 113, 1979.
Tr2 VNII televideniya i radioveshchaniya. Trudy, no. 10(29), 1978.
Tr5 Fizicheskiy institut AN SSSR. Trudy, no. 111, 1979.
Tr10 Fizicheskiy institut AN SSSR. Trudy, no. 110, 1979.

TVT (TVTYA) Teplofizika vysokikh temperatur
UFZh (UFIZA) Ukrainskiy fizicheskiy zhurnal
ZhETF P (ZFPRA) Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhN1PFIK (ZNFFA) Zhurnal nauchnoy i prikladnoy fotografii i kinematograpfii
ZhPMTF (ZPMFA) Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS (ZPSBA) Zhurnal prikladnoy spektroskopii
ZhTF (ZTEFA) Zhurnal tekhnicheskoy fiziki
ZhTF P (ZTTFD) Pis'ma v Zhurnal tekhnicheskoy fiziki

83
V. AUTHOR AFFILIATIONS

NS. Non-Soviet
0. Affiliation not given
1. Physics Institute imeni Lebedev, AN SSSR (Fizicheskiy intsitut imeni Lebedeva AN SSSR).
2. Moscow State University (Moskovskiy gosudarstvenny universitet).
3. Institute of Physics, AN BSSR, Minsk (Institut fiziki AN BSSR).
4. Physicotechnical Institute im Ioffe, Leningrad (Fiziko-tekhnicheskiy intsitut im Ioffe).
5. Institute of Physics, AN UkrSSR, Kiev (Institute fiziki, AN UkrSSR).
6. Institute of Semiconductors, AN UkrSSR (Institut poluprovodnikov AN UkrSSR).
7. State Optical Institute im Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut im Vavilova).
8. Radiophysics Scientific Research Institute at Gorkiy State University (NI radiofizicheskiy institut pri Gor'kovskom GU).
9. Institute of Semiconductor Physics, Siberian Branch, AN SSSR (Institut fiziki poluprovodnikov SOAN).
10. Kazan' State University (Kazanskiy GU).
11. Institute of Crystallography, AN SSSR (Institut kristallografii AN SSSR).
12. Institute of Radio Engineering and Electronics, AN SSSR (Institut radiotekhniki i elektroniki AN SSSR).
15. Acoustics Institute, AN SSSR (Akusticheskiy institut AN SSSR).
17. Leningrad Optomechanical Society (Leningradskoye optiko-mekhanicheskoye obschestvo).
18. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
19. Leningrad Institute of Precision Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki).
20. Yerevan State University (Yerevanskiy GU).
21. Institute of Cybernetics, AN GruzSSR (Institut kibernetiki AN GruzSSR).
22. Novosibirsk State University (Novosibirskiy GU).
23. Kiev State University (Kievskiy GU).
24. Chernovtsy State University (Chernovitskiy GU).
25. Institute of Physics Research, AN ArmSSR (Institut fizicheskikh issledovaniy AN ArmSSR).
26. Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR).
27. Institute of Atmospheric Physics, AN SSSR (Institut fiziki atmosfery AN SSSR).
28. Institute of Solid State Physics, AN SSSR (Institut fiziki tverdogo tela AN SSSR).
29. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
30. Institute of Applied Mathematics, AN SSSR (Institut prikladnoy matematiki AN SSSR).
31. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
32. Institute of High Temperatures, AN SSSR (Institut vysokikh temperatur AN SSSR).
75. Institute of Automation and Electronic Measurements, Siberian Branch, AN SSSR (Institut avtomatiki i elektrometrii SOAN).
78. Institute of Atmospheric Optics, Siberian Branch, AN SSSR (Institut optiki atmosfery SOAN).
79. Institute of Nuclear Physics, Siberian Branch, AN SSSR (Institut yadernoy fiziki SOAN).
84. Institute of Radiophysics and Electronics, AN UkrSSR (Institut radiofiziki i elektroniki AN UkrSSR).
87. Belorussian State University (Belorusskiy GU).
90. Electrotechnical Institute of Communications (Elektrotekhnicheskiy institut svyazi).
95. State Scientific Research and Planning Institute of the Rare Metals Industry (Gos NI i proyektnyy institut redkometallicheskoj promyshlennosti).
96. All-Union State Scientific Research and Planning Institute of the Photographic Chemical Industry (Vses gos NI i proyektnyy institut khimiko-fotograficheskoy promyshlennosti).
98. Institute of Nuclear Physics at Moscow State University (Institut yadernoy fiziki pri Moskovskom GU).
99. Institute of Mechanics and Physics, Saratov (Institut mekhaniki i fiziki).
104. Kaunas Polytechnic Institute (Kaunasskiy politekhnicheskiy institut).
106. Kiev Polytechnic Institute (Kievskiy politekhnicheskiy institut).
109. Latvian State University (Latviyskiy GU).
110. Leningrad Electrotechnical Institute (Leningradskiy elektrotekhnicheskiy institut).
118. Moscow Physicotechnical Institute (Moskovskiy fiziko-teknicheskiy institut).
122. Scientific Research Institute of Physicochemistry im Karpov (NI fiziko-khimicheskoy institut im Karpova).
135. Central Scientific Research Institute of Communications (Tsentral'nyy NII svyazi).
136. Uzhgorod State University (Uzhgorodskiy GU).
140. All Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements (VNII fiziko-teknicheskikh i radiotehnicheskikh izmereniy).
141. All Union Scientific Research Institute of Opticophysical Measurements (VNII optiko-fizicheskikh izmereniy).
144. All Union Scientific Research Institute of Television and Radio Broadcasting (VNII televizionnyy i radioveshchaniya).
152. Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov).
159. Institute of Thermophysics, Siberian Branch, AN SSSR (Institut teplofiziki SOAN).
160. Scientific Research Institute of Hydrometeorological Instrument Manufacture (NI gidrometeorologicheskogo priborostroyeniya).
174. Scientific Research Institute of Organic Intermediates and Dyestuffs, Moscow (NI organicheskikh poluproduktov i krasiteley).
210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut).
248. Institute of Mechanics at Moscow State University (Institut mekhaniki pri MGU).
276. Institute of Physics of the Earth im Shmidt, AN SSSR (Institut fiziki Zemli im Shmidt AN SSSR).
287. Institute of Physical Chemistry, AN SSSR (Institut fiziocheskoy khimii AN SSSR).
297. Institute of Chemistry, AN SSSR, Gor'kiy (Institut khimii AN SSSR).
304. Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR).
313. Scientific Research Institute of Applied Physics at Irkutsk State University (NII prikladnoy fiziki pri Irkutskom GU).
323. Leningrad Institute of Motion Picture Engineers (Leningradskiy institut kinoinzhenerov).
365. Odessa Hydrometeorological Institute (Odesskiy gidrometeorologicheskiy institut).
396. "Optika" Special Design Bureau for Scientific Instrument Manufacture, Siberian Branch, AN SSSR (Speetsial'noye konstruktorskoye byuro nauchnogo priboroostroyeniya "Optika" SOAN).
426. Institute of Applied Physics, AN SSSR, Gor'kiy (Institut prikladnoy fiziki AN SSSR).
427. Physics Power Institute, AN LatSSR (Fiziko-energeticheskiy institut AN LatSSR).
434. Mogilev Branch of the Physicotechnical Institute, AN BSSR (Mogilevskiy filial Fiziko-teknicheskogo instituta AN BSSR).
466. Institute of High-Current Electronics, Siberian Branch, AN SSSR, Tomsk (Institut sil'nootchnoy elektroniki SOAN).
472. Penza Civil Engineering Institute (Penzenskiy inzhenerno-stroitel'nyy institut).
479. Institute of Inorganic Chemistry, AN LatSSR (Institut neorganicheskoy khimii AN LatSSR).
481. Lutsk Pedagogical Institute (Lutskiy pedagogicheskiy institut).
482. Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR).
485. Institute of Nuclear Research, AN SSSR, Moscow (Institut yadernykh issledovaniy AN SSSR).
486. Irkutsk State Pedagogical Institute (Irkutskiy gos pedagogicheskiy institut).
487. Dnepropetrovsk Branch of the Institute of Mechanics, AN UkrSSR (Dnepropetrovskoye otdeleniye Instituta mekaniki AN UkrSSR).
488. Ukrainian Institute of Hydraulic Engineers (Ukrainskiy institut inzhenerov vodnogo khozyaystva).
494. Vladimir Polytechnic Institute (Vladimirskiy politekhchneskiy institut).
496. All-Union Scientific Research Institute of Marine Geology and Geophysics (VNII morskoy geologii i geofiziki).
| A | AZARDOVA V V | 1 | B | BETINA A A | 25 | BUTTE V E | 42 |
| ABAKUNOV G A | 62 | BAYEY | 50 | BIRYUKOV S A | 13 | C | CHAGULOV V S | 34 |
| ABLEKOV V K | 50 | BARIYEV YU N | 50 | BIRYULIN YU F | 64 | CHAMOROSOV N T | 35 |
| AFANAS’EYEV I I | 62 | BARKEYE YU A | 12 | BLYATLOV YU M | 36 | CHANTURIYA G F | 35 |
| AFANAS’EYEV M M | 33 | BASSI G | 54 | BLAZHIN V D | 38 | CHEBOTAYEV V P | 8.63 |
| AFANAS’EYEV N B | 31 | BABAYEV S N | 8.63 | BLETSSKAN Y D | 68 | CHEPILYEV N I | 8 |
| AGREYEV V P | 8 | BABIN A A | 25 | BLOSTANOVA A A | 8 | CHEPYMOV A I | | |
| AKCHURIN G G | 7.54 | BACHKEROVA V V | 20 | BLOKHIN V I | 9 | CHEPYMOV A I | | |
| AKOYAN S A | 6 | BAZIKA J | 10 | BOROZNOVA A A | 44 | CHEPYMOV N | 73 |
| AKSENOV M P | 40 | BAGAYEV S N | 5.63 | BOLDITIN G A | 66 | CHERKOV N | 26 |
| AKSENOV Y E T | 33 | BAGASAR’EV YN K S | 6.9 | BOLOTOLOK L M | 6 | CHERKSOV N A | 30 |
| ALEBASTROVA YE P | 70 | BAKANOVA D G | 13 | BOROSKIN A N | 48 | CHERNOBROV N A | 24 |
| ALEKSEEV-POLYEV A V | 43 | BALKASHIY V I | 26 | BOROSTOLOK L M | 6 | CHERNOYARSKY A A | 35 |
| ALINPEYEV S S | 31 | BARANOVA N R | 27 | BOLITSIKH L T | 23 | CHERNOYARSKY A A | 35 |
| AL’PEROVICH M A | 9 | BARANOV A I | 17 | BOLSHIKH A S | 78 | CHERNYKH V A | 37 |
| ALUKER N L | 63 | BARKIN R I | 44 | BONDIR A A | 3 | CHERNYKH V A | 36 |
| ANDRENKO S D | 43 | BARTSYUK S | 61 | BORISOV A V | 56 | CHERMAKHA V | 158 |
| ANDREYEV N I | 25 | BASSI T T | 2.63.44 | BORISOV V N | 15 | CHIELA G | 48 |
| ANDREYEV YU S | 46 | BASOPOV N | 9.10.15.25.30 | BORISOVA A | 65 | CHILINGAROVA A | 52 |
| ANDREYEV O V | 43 | BASHKOV A A | 17 | BORISOVA A | 65 | CHILINGAROVA A | 52 |
| ANDREYEV N I | 25 | BARTSYUK S | 61 | BORISOVA A | 65 | CHILINGAROVA A | 52 |
| ANDREYEV YU S | 46 | BASHKOV A A | 17 | BORISOVA A | 65 | CHILINGAROVA A | 52 |
| ANTOPOV A B | 68 | BAXESOV A A | 32 | BRAYMUNOVA I | 44 | CHILINGAROVA A | 52 |
| ANUPRIK S S | 5 | BELOVA N | 32 | BRAYMUNOVA I | 44 | CHILINGAROVA A | 52 |
| ARKHANGEL’SKAYA V A | 2 | BELOV M L | 37 | BRODIN M S | 30.72 | DABAGYAN A A | 64 |
| ARTAMONOV V V | 63 | BELOV V N | 55 | BROZELI M I | 37 | DAEHNE S | 67 |
| ARUTYUNYAN V M | 31.63 | BELOVA Y | 55 | BRYTSKAEV T | 36 | DAJCHIKIN S A | 35 |
| ARTAMONOV V V | 63 | BELOVA V N | 55 | BRYTSKAEV T | 36 | DAMILOVA N A | 35 |
| ASADULLIN F V | 26 | BELOZEROV A F | 55.77 | BUSHIN M N | 34 | DAMILOVA N A | 35 |
| ASHEHOLOV V V | 48 | BELEYELOV N | 25 | BUDAKH A A | 34 | DANILOVICH A | 35 |
| ASINOVSKY I I | 60 | BELENOV V | 25 | BUDAKH A A | 34 | DANILOVICH V N | 35 |
| ASLANOV L S | 60 | BELOV V N | 25 | BUKHAROV A A | 71 | DAVYDOVA N | 35 |
| ATAMANOV V V | 55 | BELEHOV A A | 17 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| ATAYEV B M | 25 | BERDAEV A B | 17 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| ATROSHCHEVKO V I | 25 | BERDOV A A | 55 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| AUSLINDER A L | 43 | BELENKO V A | 32 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| Aymal-Tayrov V A | 20 | BELENKO V A | 32 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| AVRAPIYAN V S | 44 | BESOSNOVA S S | 70 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |
| AVRAPIYAN V S | 44 | BILKOV A A | 25 | BUKHAROV A A | 71 | DAVYDOVA N | 45 |

VI. AUTHOR INDEX
<table>
<thead>
<tr>
<th>Name</th>
<th>Code</th>
<th>Name</th>
<th>Code</th>
<th>Name</th>
<th>Code</th>
<th>Name</th>
<th>Code</th>
<th>Name</th>
<th>Code</th>
<th>Name</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>KALINTSEV A G</td>
<td>24</td>
<td>KHAINIS V M</td>
<td>41</td>
<td>KOLENSNIK L I</td>
<td>65</td>
<td>KOVAL' A E V</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALISKI S</td>
<td>32.75</td>
<td>KHIJNIKAYA I</td>
<td>42</td>
<td>KOLMIYSKY Y U R</td>
<td>58</td>
<td>KOVAL' I O</td>
<td>9.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALMYCHEK A A</td>
<td>1.4</td>
<td>KHOIZHAYA G I</td>
<td>41</td>
<td>KOLSKOY V V</td>
<td>39</td>
<td>KOVAL' I O</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALMYKOV I V</td>
<td>34</td>
<td>KHOZHAYEY A Z</td>
<td>59</td>
<td>KOLSKOY M A</td>
<td>39</td>
<td>KOVAL' I O</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALMYNYA R P</td>
<td>72</td>
<td>KHOLOIN I V</td>
<td>71</td>
<td>KOLPAKOV Y U G</td>
<td>23</td>
<td>KOVAL' I O</td>
<td>9.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALUZNY J</td>
<td>46</td>
<td>KHOLODAR G A</td>
<td>22</td>
<td>KOMAROV K P</td>
<td>32</td>
<td>KOVTUN A V</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALUZHNYA G A</td>
<td>49</td>
<td>KOLENKOY A V</td>
<td>49</td>
<td>KOMIYSAKHO I I</td>
<td>75</td>
<td>KOVSKH A E V I</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KALUZHNYY G S</td>
<td>40</td>
<td>KIPOIN V F</td>
<td>49</td>
<td>KOMANETSN I N</td>
<td>49</td>
<td>KOZHEVNIKOV M</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAMINSKIY A A</td>
<td>1.2</td>
<td>KHOZHEV I M</td>
<td>59</td>
<td>KONAKH V F</td>
<td>13</td>
<td>KRAKASINOV M</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAN V</td>
<td>48</td>
<td>KRISTOFOROV O B</td>
<td>15</td>
<td>KONDILENO I I</td>
<td>23</td>
<td>KRAKASINOV M</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KANAYEV A V</td>
<td>15</td>
<td>KRYMIKHKY A M</td>
<td>61</td>
<td>KONDRESHOV N G</td>
<td>33</td>
<td>KRAKOV N G</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KANTOROVICH I I</td>
<td>71</td>
<td>KULUGUROV V M</td>
<td>2</td>
<td>KONDRAT' EY V S</td>
<td>23</td>
<td>KRAKOV N G</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAPITANOV V A</td>
<td>68</td>
<td>KUSAINOVA Y A G</td>
<td>42</td>
<td>KON I M N C Y</td>
<td>36</td>
<td>KRASTAVIN S</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAPLYANSKIY A A</td>
<td>38</td>
<td>KVALDOVSHY I V V</td>
<td>36</td>
<td>KONIMERO N V K</td>
<td>3</td>
<td>KRASTAVIN S</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARAPUTOV A A</td>
<td>27</td>
<td>KILIESINSKI M</td>
<td>75</td>
<td>KONOPOY I G</td>
<td>8</td>
<td>KRAMIINKHOV I I L</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARAPETYAN G O</td>
<td>58</td>
<td>KIRCHEVA P P</td>
<td>29</td>
<td>KONOVOY A S</td>
<td>34</td>
<td>KRAMIINKHOV I I L</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARASK A A</td>
<td>58</td>
<td>KIRIKHENKO N A</td>
<td>70</td>
<td>KONOV V I</td>
<td>8.70</td>
<td>KRAMIINKHOV I I L</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARELOV N V</td>
<td>18</td>
<td>KIRILLOV G A</td>
<td>73.5</td>
<td>KONUMPOY I N</td>
<td>15.5</td>
<td>KRAMIINKHOV I I L</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAREEV Y U</td>
<td>25</td>
<td>KIRILLOV-POSTNIKOV S A</td>
<td>46</td>
<td>KONYAYEV V P</td>
<td>3.4</td>
<td>KRAMIINKHOV I I L</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARLOV N V</td>
<td>9.91.3</td>
<td>KIRLYKOVOY A Y E</td>
<td>13</td>
<td>KONYUKHOV V K</td>
<td>10.1.14</td>
<td>KRA QUAL J A</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARNANDY G A</td>
<td>13</td>
<td>KIRMAIN Y N P</td>
<td>59</td>
<td>KOPITEV V A</td>
<td>72</td>
<td>KRAULINA Y E K</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARMENYAN A V</td>
<td>63</td>
<td>KIRMAIN Y N P</td>
<td>31</td>
<td>KOPALYEV Y A</td>
<td>44</td>
<td>KRAVCHENKO A F</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARNATOSKYI V YE</td>
<td>42</td>
<td>KIRMAIN Y N P J</td>
<td>15</td>
<td>KOPYLOVA T N</td>
<td>19</td>
<td>KRAVCHENKO V I</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARPEL'TSEV V P</td>
<td>66</td>
<td>KIRMAIN Y N P J</td>
<td>69</td>
<td>KOPYTHIN Y D</td>
<td>38</td>
<td>KRAVCHENKO V I</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARPEKO G S</td>
<td>25</td>
<td>KISLOVA Y N</td>
<td>25</td>
<td>KONYMAAN LA</td>
<td>23</td>
<td>KRAVCHENKO V I</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KARTELEVA S S</td>
<td>9</td>
<td>KISELEVA N G</td>
<td>19</td>
<td>KORYEYPOY V E L</td>
<td>36</td>
<td>KREMENCHUKSY I L S</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KASHLAYS Y YE</td>
<td>47</td>
<td>KISELEVA K V</td>
<td>4</td>
<td>KORMER S B</td>
<td>17.39.40.74</td>
<td>KRIEG W</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KASLIN V M</td>
<td>11</td>
<td>KISS G S</td>
<td>4</td>
<td>KORMAIRCHUK V A</td>
<td>65</td>
<td>KRIEL G' V G</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KASOVYEV S G</td>
<td>48</td>
<td>KLEBNDZICZI J</td>
<td>6</td>
<td>KORNIYENKO L S</td>
<td>35</td>
<td>KRIJENKO P I</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAS'YAN V G</td>
<td>53</td>
<td>KLEINDMICH V J</td>
<td>22</td>
<td>KOSKESHOV I G V</td>
<td>20.75</td>
<td>KRIJESHOVCHENKO G V</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KATSEV I L</td>
<td>38</td>
<td>KLEJMAN H</td>
<td>59</td>
<td>KORDAICHKIN A V</td>
<td>21</td>
<td>KRODA V A</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KATULIN V A</td>
<td>39</td>
<td>KLEM D</td>
<td>22</td>
<td>KORONKEVICH V P</td>
<td>57</td>
<td>KROUJENKO N N</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAUPELIS R R</td>
<td>22</td>
<td>KLEM E</td>
<td>31</td>
<td>KORIYEOHEV N I</td>
<td>68</td>
<td>KRUPITSKY E I</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAYNOV V YU</td>
<td>74</td>
<td>KLEM P G M</td>
<td>13</td>
<td>KOROTKOY P A</td>
<td>23</td>
<td>KRYOVOY I R</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAZAVECHIC V S</td>
<td>9.16</td>
<td>KLESCEWSZI Z</td>
<td>59</td>
<td>KORDHICHOV V B</td>
<td>53</td>
<td>KRYUHCHEVCHENKO V B</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAZANSKIY P G</td>
<td>37</td>
<td>KLIMASHIN V P</td>
<td>39</td>
<td>KOSARIKSY Y S</td>
<td>42</td>
<td>KRYUHOV P G</td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAZASHTSEV Y U N</td>
<td>35</td>
<td>KLIMIN V F</td>
<td>59</td>
<td>KOSKHACHYAVSE Y N F</td>
<td>37</td>
<td>KRYNUK M V</td>
<td>2.3.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAZARAYAN H A</td>
<td>12</td>
<td>KIMOY V D</td>
<td>75</td>
<td>KOSKIDS Y V E T</td>
<td>23</td>
<td>KRYZHDANSEHOV I I</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAZIKEDIZE N A</td>
<td>35</td>
<td>KIMOY V D</td>
<td>75</td>
<td>KOSKIDS Y V E T</td>
<td>23</td>
<td>KRYZHDANSEHOV I I</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KEDZIERSKI W</td>
<td>28</td>
<td>KOSHCHENKO A P</td>
<td>58</td>
<td>KOSLOTOBOY S N</td>
<td>28</td>
<td>KUZDEV V N</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KEPAT J</td>
<td>58</td>
<td>KLOCHKO V A</td>
<td>78</td>
<td>KOSTAIVIAN A A</td>
<td>46</td>
<td>KUZDRAVSYEY M E T</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KERIMOV O M</td>
<td>15.51</td>
<td>KLOCHKO V P</td>
<td>59</td>
<td>KOTMAITESE L A</td>
<td>-7</td>
<td>KUHELKE D</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHAZIBULINA L R</td>
<td>49</td>
<td>KLOTAY S H E E</td>
<td>65</td>
<td>KUTOBY V A</td>
<td>70</td>
<td>KUKHTAREV N V</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHAZIBULINA A A</td>
<td>37</td>
<td>KLYUYEV V V</td>
<td>78</td>
<td>KUTOBY V A</td>
<td>34</td>
<td>KUKIBOY Y A</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHAZIBUKAN A M</td>
<td>12</td>
<td>KOKENAS Y V</td>
<td>16</td>
<td>KUTOBY V A</td>
<td>70</td>
<td>KULABA Y E</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHANYOY V A</td>
<td>8</td>
<td>KOCHEYO V I V</td>
<td>15</td>
<td>KTOVA S P</td>
<td>47</td>
<td>KUNAVIN S T</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHATTOOV V</td>
<td>38</td>
<td>KOCZIO F F</td>
<td>32</td>
<td>KOTSUBAN V D</td>
<td>61</td>
<td>KUND G G</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHATTOEV N P</td>
<td>53.64.2</td>
<td>KOKOVNA Y A</td>
<td>77</td>
<td>KOTUKA Y V</td>
<td>53</td>
<td>KUNE V G</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHAYMOY-M AL KOY V YA</td>
<td>29</td>
<td>KOKOV I T</td>
<td>27</td>
<td>KOVAL' CHUK L V</td>
<td>75</td>
<td>KURATKOV V Y</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Number</td>
<td>First Name</td>
<td>Last Name</td>
<td>Age</td>
<td>Address</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>------------------</td>
<td>-----------------</td>
<td>-----</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savinkov S Ye</td>
<td>3</td>
<td>Shigorin D N</td>
<td>Sobolev A G</td>
<td>49</td>
<td>SVIRIDOV A V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savruckov N T</td>
<td>47</td>
<td>Shikhalev E G</td>
<td>Sobolev G A</td>
<td>47</td>
<td>SVIRIDOV M V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savushkin A F</td>
<td>56</td>
<td>Shipulo G P</td>
<td>Sobolev N N</td>
<td>20</td>
<td>SVIRIDOV V A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savva V A</td>
<td>32</td>
<td>Shishkin A I</td>
<td>Sobolev V S</td>
<td>70</td>
<td>SYCHUGOV A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scholz M</td>
<td>67</td>
<td>Shitov G</td>
<td>SOKOLOV A V</td>
<td>12</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schroeister S</td>
<td>18</td>
<td>Shkalikov V S</td>
<td>SOKOLOV V I</td>
<td>5</td>
<td>SYCHUGOV A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedko S Ye</td>
<td>59</td>
<td>Shkitin V A</td>
<td>SOKOLOV V V</td>
<td>29</td>
<td>SYCHUGOV A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedel'nikov A I</td>
<td>67</td>
<td>Shlenkin V I</td>
<td>Sokolov A V</td>
<td>12</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedlov L V</td>
<td>48</td>
<td>Shmartsev Yu V</td>
<td>Sokolovskaya A I</td>
<td>28</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belzeleva L A</td>
<td>12</td>
<td>Shomina Ye V</td>
<td>Sokolovskiy R I</td>
<td>6</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semak G</td>
<td>48</td>
<td>Shpak M T</td>
<td>Sokolovskiy, I</td>
<td>6</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semenov A A</td>
<td>1</td>
<td>Shtrykov Ye I</td>
<td>Sokolovskiy I</td>
<td>6</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semenov A S</td>
<td>33,34</td>
<td>Shtrykova A S</td>
<td>Sokolovskiy V V</td>
<td>12</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semenov S P</td>
<td>49</td>
<td>Shul'ga A Ya</td>
<td>Sokolovskiy V V</td>
<td>12</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semenov V V</td>
<td>74</td>
<td>Shumilov E N</td>
<td>Sokolovskiy, V</td>
<td>6</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semenov Ye P</td>
<td>28</td>
<td>Shurdelev P A</td>
<td>Sokolovskiy V I</td>
<td>12</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sennatsiy Yu V</td>
<td>31</td>
<td>Shushpanov O Ye</td>
<td>Sokolovskiy, V</td>
<td>6</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serba A A</td>
<td>28</td>
<td>Shuvalo V V</td>
<td>Sokolovskiy V</td>
<td>24,37</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seredyakov V A</td>
<td>26</td>
<td>Shveykin V I</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seredin V V</td>
<td>61</td>
<td>Sidorenko A V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seredov D B</td>
<td>47</td>
<td>Silyukov V N</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sevcchenko A N</td>
<td>27,29,67</td>
<td>Sidorov Yu L</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severidov N V</td>
<td>18</td>
<td>Simukova N A</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serov V V</td>
<td>65</td>
<td>Sidorovich V G</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sergeyev V V</td>
<td>53</td>
<td>Sikharulidze D G</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serikov R I</td>
<td>13</td>
<td>Silin V P</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serov O B</td>
<td>47</td>
<td>Silyukov V N</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shcheglov V A</td>
<td>13,14,17</td>
<td>Sidorov Yu L</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shchelev M Ya</td>
<td>61</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shchefpinov V P</td>
<td>61</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shcherbakov Ye A</td>
<td>34</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shchelkina A S</td>
<td>42</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shedo Yu N</td>
<td>24</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelifin L A</td>
<td>29</td>
<td>Shirokov O V</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheshedinov R B</td>
<td>36</td>
<td>Smolovich A M</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shemyakin V I</td>
<td>30</td>
<td>Smolovsky Ye F</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrestobitov V Ye</td>
<td>53</td>
<td>Smolovsky Ye P</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shetopolov V P</td>
<td>43</td>
<td>Snilyo O G</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shevchenko Ye G</td>
<td>4</td>
<td>Sobko A I</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shevtsov M K</td>
<td>64</td>
<td>Sobolev D N</td>
<td>Sokolovskiy V V</td>
<td>24</td>
<td>SYCHUGOV M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table contains information about each person's name, number, first name, last name, age, and address.