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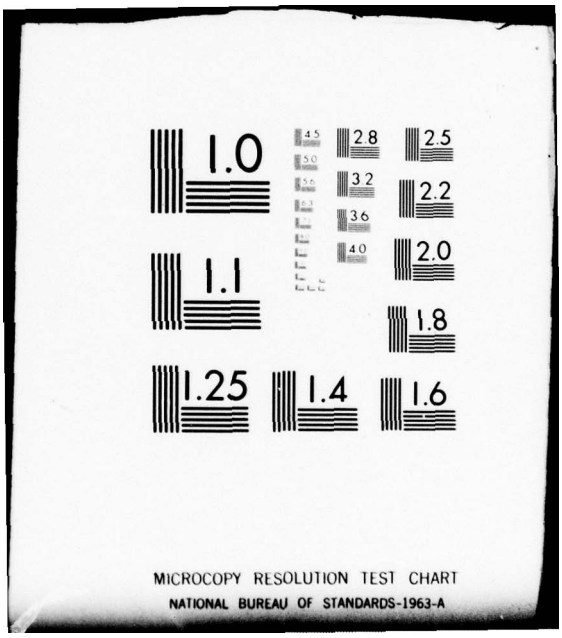
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INTRODUCTION

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is November-December 1977, 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.

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.

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19. KEY WORDS

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

20. ABSTRACT

This is the Soviet Laser Bibliography for November-December 1977 and is No.32 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; beam-target interaction; and plasma generation and diagnostics.

SOVIET LASER BIBLIOGRAPHY, NOVEMBER-DECEMBER 1977

TABLE OF CONTENTS

I. BASIC RESEARCH

A. Solid State Lasers

1. Crystal: Ruby..... 1
2. Crystal: Rare-Earth Activated

a. Nd^{3+}..... 1
b. Er^{3+}..... 1
c. Ho^{3+}..... 2

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

4. Semiconductor: Heterojunction..... 2

5. Glass: Nd..... 3

6. Glass: Er..... 3

7. Glass: Miscellaneous..... 4

B. Liquid Lasers

1. Organic Dyes

a. Rhodamine..... 4
b. Ketocyanine..... 4
c. Miscellaneous Dyes..... 4

2. Inorganic Liquids..... 5

C. Gas Lasers

1. Simple Mixtures

a. He-Ne..... 5

2. Molecular Beam and Ion

a. CO_2..... 6
b. CO..... 8
c. Argon..... 8
d. Metal Vapor..... 8
e. Gasdynamic..... 9

3. Excimer..... 10

4. Theory..... 10

D. Chemical Lasers

1. $F_2+H_2(D_2)$..... 11

2. Photodissociation..... 11

3. Transfer..... 12

E. Components

1. Resonators..... 12

2. Pump Sources..... 13

3. Detectors..... 13

4. Modulators..... 14

F. Nonlinear Optics

1. Frequency Conversion..... 15

2. Parametric Processes..... 17

3. Stimulated Scattering

a. Raman..... 18
b. Brillouin..... 19
c. Miscellaneous Scattering..... 19

4. Self-focusing..... 19

5. Acoustic Interaction..... 19

6. General Theory..... 20

G. Spectroscopy of Laser Materials..... 22

H. Ultrashort Pulse Generation..... 23

J. Theoretical Aspects of Advanced Lasers 24

K. General Laser Theory..... 24

II. LASER APPLICATIONS

A. Biological Effects..... 26

B. Communications Systems..... 26

C. Beam Propagation

1. In the Atmosphere..... 29

2. In Liquids..... 39

3. Theory..... 40

D. Computer Technology..... 40

E. Holography..... 42

F. Laser-Induced Chemical Reactions..... 46

G. Measurement of Laser Parameters..... 48

H. Laser Measurement Applications

1. Direct Measurement by Laser..... 51

2. Laser-Excited Optical Effects..... 59

J. Beam-Target Interaction

1. Metal Targets..... 68

2. Dielectric Targets..... 68

K. Plasma Generation Diagnostics..... 70

III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS..... 74

IV. SOURCE ABBREVIATIONS..... 77

V. AUTHOR AFFILIATIONS..... 82

VI. AUTHOR INDEX..... 85

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J. BEAM-TARGET INTERACTION

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IV. SOURCE ABBREVIATIONS

(CIRC Codens)

BAPS ser sci chim		Bulletin de l'Academie Polonaise des Sciences (chemistry series)
BAPS ser sci math astron et phys		Bulletin de l'Academie Polonaise des Sciences. (math, astronomy, physics series)
DAN Arm	(DANAA)	Akademiya nauk Armyanskoy SSSR. Doklady
DAN BSSR	(DBLRA)	Akademiya nauk Belorusskoy SSSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN UkrSSR	(DUKAB)	Akademiya nauk UkrSSR. Dopovidi. Seriya A
FAIO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSSR. Izvestiya. Fizika
IAN Uz	(IUZFA)	Akademiya nauk Uzbekskoy SSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Fizika
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Geodiz		Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy

KL	(KNLTA)	Knizhnaya letopis'
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
MZhiG	(IMZGA)	AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeod	(RZGAB)	Referativnyy zhurnal. Geodeziya i aeros"yemka
RZhGeofiz	(RZGFA)	Referativnyy zhurnal. Geofizika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1		Sbornik. "Laser und ihre Andwendungen". Dresden. 28 March-1 April 1977.
Sb2		IV Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. Metody i apparatura. Tezisy dokladov. Tomsk, 1977.
Sb3		Sbornik XXX Gertsenovskogo chteniya. Fiz. elektronika. Leningrad, 1977.
Sb4		Sbornik XXX Gertsenovskogo chteniya. Teoriya fiz. i astronom. Leningrad, 1977.
Sb5		TsAGI [Tsentral'nyy aero-gidrodinamicheskiy institut]. Uchenyye zapiski, no.6, 1977.
Sb6		Sbornik shirokopolosnogo ustroystva. SVCh i sistemy optimal'noy obrabotki signalov. Novosibirsk, 1976.
Sb7		IX Vsesoyuznaya akusticheskaya konferentsiya, 1977. Sekts. "Ch". Moskva, 1977.

Sb8 IV Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. Nelineynyye effekty. Tezisy dokladov. Tomsk, 1977.

Sb9 Apparatura i metody rentgenovskogo analiza, no.18. Leningrad, Mashinostroyeniye, 1977.

Sb10 Nauchno-tekhnicheskiy progress i gigiyena truda v mashinostroyenii. Moscow, 1977.

Sb11 IV Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. Poglosheniye i rasseyaniye lazer. izluch. gazami i aerozolyami atmosf. Tezisy dokladov. Tomsk, 1977.

Sb12 Bul. Inst. politehn. "Gh. Gheorghiu Dej.", Bucuresti, v.38, no.3, 1976.

Sb13 Problemy golografii, no.7, Moscow, 1976.

Sb14 Problemy distantsionogo zondirovaniya atmosfery. Tomsk, 1976.

Sb15 Fizika goreniya i metody yeye issledovaniya, no.7, Cheboksary, 1977.

Sb16 Radiofizicheskoye issledovaniye atmosfery. Leningrad, Gidrometeoizdat, 1977.

Sb17 Fundament. issledovaniya. Fiziko-matematicheskoy i tekhnicheskoy nauki, Novosibirsk, Nauka, 1977.

Sb18 Sposoby zapisi informatsii na besserebryannikh nositelyakh, no.8, Kiyev, Vishcha shkola, 1977.

Sb19 Golograficheskiye metody i apparatura primenyayemaya v fizicheskom issledovanii i ikh metrologicheskoye obespecheniye. Moscow, 1976.

Sb20 Metrologicheskoye obespecheniye rabot v oblasti energ. fotometrii. Moscow, 1976.

Sb21 Fizicheskiye metody issledovaniya prozrachnykh neodnorodnostey. Moscow, 1977.

Sb22 Nekontaktnyye metody izmereniya okeanograficheskikh parametrov. Moscow, Gidrometeoizdat, 1977.

Sb23		TsAGI. Uchenyye zapiski, no.2, 1977.
Sb24		Reofizika, Minsk, 1977.
Sb25		Nauchnyye trudy po problemam mikro-elektroniki. Moskovskiy institut elektron. tekhniki, no.30, 1976.
Sb26		Voprosy vodnogo khozyaystva, no.2, Minsk, Uradzhay, 1976.
Sb27		Fazovyye perekhody metall-dielektrik, kratkoye soderzhaniye dokladov prestavl. na II Vsesoyuznoy konferentsii po fazovym perekhodam metall-dielektrik, L'vov, 1977. Moscow-L'vov, 1977.
Sb28		Fiz. struktury i svoystva tverdykh tel. Kuybyshev, 1976.
Sb29		Svoystva nizkotemperaturnoy plazmy i metody yeye diagnostiki. Novosibirsk, Nauka, 1977.
Sb30		TsAGI. Uchenyye zapiski, no.5, 1977.
TKiT	(TKTEA)	Tekhnika kino i televideniya
Tr1		Trudy Leningradskogo instituta tochnoy mekhaniki i optiki, no.88, 1977.
Tr2		Trudy NII gidrometeorologicheskogo priborostroeniya, no.34, 1977.
Tr3		Trudy vestn. Kiyev. politekhni. instituta, Seriya radioelektroniki, no.14, 1977.
Tr4		AN SSSR, Trudy FIAN, v.102, 1977.
Tr5		Trudy Moskovskogo energ. instituta, no.315, 1977.
Tr6		Trudy Moskovskogo energ. instituta, no.317, 1977.
Tr7		Trudy gos. NI tsentra izucheniya prirodnykh resursov, no.4, 1977.
Tr8		Trudy Moskovskogo vyssh. tekhn. uchilishcha, no.252, 1977.

Tr9		Trudy Leningradskogo instituta tochnoy mekhaniki i optiki, no.89, 1977.
Tr10		Trudy gos. gidrologicheskogo instituta, no.232, 1977.
Tr11		Trudy gos. proyekt. i NII po kompleks proyektir. predpriyatiy. poligr. promyshlennosti, no.11, 1977.
TVT	(TVYTA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya
ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v zhurnal tekhnicheskoy fiziki

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A

ABAKUMOV G A 23
ABLOVA M S 40
ABOLIN'SH YA YA 59
ABRAMOCHKIN A I 29
ADAMUSHKO A V 5
ADZHIGITOV YU A 51
AGASIYEV A A 60
AGEYEV L A 60
AGEYEV V P 70
AGEYEVA L YE 3
AGLITSKIY YE V 70
AGROSKIN V YA 11
AGUREYEV YU P 22
AKAYEV A 40
AKHIMOV A V 60
AKHMANOV S A 5,17,19,20 46,60
AKHMEDOV U K 46
AKOS G 40
AKULIN V M 46,60
ALEKSANDROV V V 13
ALEKSANDROV V I 60
ALEKSANYAN A S 30
ALESHIN I V 60
ALFEROV ZH I 2
ALIMPIYEV S S 46
ALIYEV SH D 51
ALTHANN K 18
AMBARTSUMYAN R V 46
ANAN'YEV YU A 12
ANDREYEV A A 40
ANDREYEV L V 70
ANDREYEV V M 2
ANDREYEVA T L 46
ANDRIYAKHIN V M 6
ANNENKOVA G A 51
ANTIPOV A I 23
ANTONOV A S 51
ANTONOV V A 22
ANTONOV V V 29
ANTYUFEYEV V S 30
APANESEVICH P A 74
ARAKELYAN S M 15
ARBUZOV V I 3
ARISTOV A V 4
ARSEN'YEV P A 22
ARSH M M 30
ARTEMOV YU P 48
ARUTYUNYAN A G 60
ARUTYUNYAN V M 24
ASTAFUROV V G 30
AUSLENDER A L 51
AVER'YANOV G A 1,15
AYUNTS YU KH 30

B

BAGAYEV S N 54
BAGLAY R D 41
BAKHSHIYEV N G 5
BAKLANOV YE V 54
BAKLUSHINA M I 18
BALANDIN S F 38
BALANTSEV S K 74
BALASHOV I V 1
BALIN YU S 30,38
BALOSHIN YU A 6
BALTRAMEYUNAS R 42
BALYKIN V I 47
BAL'KYAVICHYUS P I 69
BARACHEVSKIY V A 42,61,64
BARCHUKOV A I 70
BARYSHNIKOV V F 48
BASEVICH A B 51
BASOV N G 6,10,26,71
BASOVA I S 30
BASUN S A 60
BATISHCHE S A 15
BATUROVA G S 30
BATYRBEKOV G A 7
BAYEV V M 52
BECKMANN A 58
BEGAYEV S N 52
BEKTURGANOV B K 30
BELANOV A S 26
BELENOV E M 15
BELIKOVA T G 52
BELOGOL'SKIY V A 59
BELOKON' M V 5
BELOSHITSKIY V V 24
BELOV A V 27
BELOV V V 31
BELOVA G N 14
BELOVOLOV M I 41
BEL'TS V A 7,31
BELYANINA I N 15
BELYAVIN V F 6
BENCZE GY L 14,43
BERENBERG V A 1
BEREZHNOY A A 14
BEREZHNOY I A 26,27
BEREZIN P D 42
BERGMANN H 27
BERGMANN J 19
BERNHARDT H 61
BESSHAPOSHNIKOV A A 71
BETEROV I M 54
BILYY YA M 6
BIRMANTAS A 52
BIRYUKOV A S 10
BISYARIN V P 31
BISYARINA I P 31
BLINOV V V 9
BLINOVSKAYA YE M 52
BLOKHIN A S 42
BOBUKH V I 52
BOBULESCU R 58
BOGDANOV V L 61,63
BOGORODSKIY V V 27
BOGUSLAW B 62
BOHM J 22
BOKHAN P A 8
BOKHONOV A F 71
BONCH-BRUYEVICH A M 19,53 61,68
BONDARENKO N G 27
BOR ZH 5
BORISOV B D 31
BORSHCH A A 42
BORSHCH V V 61
BOTYGINA N N 39
BOYKO V A 6
BOYTSOV V F 53
BOZHKOV A I 20
BRACHKOVSKAYA N B 3
BRATESCU M A 58
BREKHOVSKIKH G L 45
BRODIN M S 42,61
BRON R YA 62
BRUNNER W 58
BRYSOV O P 53
BUBNOV M M 41
BUDAGYAN I F 43
BUKATYY V I 20,31,32,39
BUKOVA YE S 61
BULAKHOVA L V 27
BUNKIN A F 47
BUNKIN F V 70
BUREYEV V A 43
BURLAKOV V D 8
BURMAKOV A P 5,71
BURTSEV V A 7
BUSHUYEV V A 24
BUTIKOV YU A 32
BUTUSOV N M 62
BUZHINSKIY I M 53
BYCHENKOV V YU 71
BYCHKOV R M 53
BYCHKOV YU I 7
BYKOV G P 41
BYKOVSKIY N YE 3

C

CEAUSESCU N N 27
CERMAK K 53
CHAGULOV V S 28,43,44
CHALTYKYAN V O 65
CHAMOROVSKIY YU G 28
CHAPLIYEV N I 70
CHAPOROV D P 20
CHASHCHINA G I 55
CHAYANOVA E A 34,55
CHEBOTAYEV V P 52,54,56
CHEKALIN N V 47
CHEKALIN S V 70
CHELIDZE T YA 20,49
CHEREPANOV A P 48
CHEREZOV V M 9
CHERKASOV A S 4
CHERNAI K 5
CHERNOV S P 23
CHERNOYARSKIY A A 49
CHESNOKOV YE N 47
CHILINGARYAN YU S 15
CHIRKIN A S 5
CHISTYY I L 62
CHIZHIKOVA Z A 49
CHROSTOWSKI J 21
CHU TRAN-BA 54
CHUGUNOV A YU 6,73
CHUGUY YU V 53
CHUMAKOV A N 70
CHUMANOV A V 43
CHUPRYNA V A 73
COJOCARU E 71
CRISTESCU C P 8

D

DANELYUS R 17,52
DANILEYKO M V 15,54
DANILOV A YE 72
DANILOV V V 4,74
DANILYCHEV V A 7,13
DANILYCHEV V D 6
DAVYDOV B A 49
DEDLOVSKIY M M 28
DELONE N B 24
DEMIDENKO T F 54
DEMIDENKO Z A 61
DENISOV F T 38
DENISOV L K 4
DESYATNIKOVA I A 54
DEVYATYKH G G 41
DIANOV YE M 27,41
DIDENKO N K 38
DIETEL W 14
DIKCHYUS G 17,52
DILENKO YU V 29
DMITRENKO K A 61
DMITRIYEV A B 22
DMITRIYEV A K 52,54
DMITRIYEV V G 16
DOBROVOL'SKIY A F 7,31
DOICARU VL 27
DOKASHENKO V P 62
DOLININ N (13,32
DOLZHIKOV V S 47
DOMNIN YU S 49
DONNERHACKE K H 7,14
DOROFEYEV V G 61
DOROFEYEV V I 3
DOVGIY YA O 6
DOYCHEVA V D 16
DROBNIK A 3,49
DROFA A S 32,38
DROZDZEWSKI P M 62
DRUKAREV YE G 62
DRUKER I G 9
DUBOVIK I A 55
DUBOVIK M V 6
DUBOVOY L V 72
DUBROVIN V F 43
DUBROVSKIY A V 61
DUKHOVNYY A M 49
DYABIN YU P 32
DYAGILEVA A V 55
DYATLOV V D 72
DYCHKOV A S 52
DYKHNE A M 60
DZHIBLADZE M I 3,28,49
DZHOTYAN G P 17
DZHULAKYAN V M 30
D'YAKOV YU YE 17

E

EICHLER J 26
ELENKRIG V V 28
ENDERT H 69
ENGEL'KE V A 55
EPSHTEYN V I 72
EYVASOVA G M 60

F

FABELINSKIY V I 64
FADEYEV V V 23
FADEYEV V YA 35,36
FATIYEVSKIY A I 31
FAYENOV A YA 72
FAYZULLOV F S 69
FAYZULLOV T F 63
FEDCHUK I YU 42
FEDOROV M V 47
FEDOROV V B 42
FEDOROV V I 72
FEDOTOV A P 62
FEDOTOV S I 72
FEDULIN I A 30,34
FEKESHGAZI I V 61
FEKESHGAZI I V 65
FEOFILAKTOV V A 12
FEOFILOV P P 2
FEOKTISTOV A A 35
FERDINANDOV E S 32
FERSTER E 72
FILINA YE V 53
FILIPPOV V L 33
FILIPPOV YU A 1
FISCHER R 17,48,59
FISUN A I 33
FLEISCHER M 56
FOMIN N A 9
FOMIN V I 67
FRANKE K 56
FROMZEL' V A 3
FURZIKOV N P 46

G

GACKOWSKA G 15
GALAKHOV V N 33
GALANIN M D 49
GALUN B V 13
GAL'PERN M G 14
GANTMAKHER V F 63
GANTZ J 56
GARGA I I 9
GASPARYAN S S 33
GAZYULYAN R N 23
GELIKONOV V M 9
GEMBARZHEVSKIY G V 12
GENEROZOV N L 34
GENIN V N 31
GEORGADZE YE Z 44
GERASIMENKO V S 63,66
GERASIMOV B P 69
GERMAN A I 33
GERMANISHKIS B M 18
GETTS K 72
GILYAROV O N 5
GINZBURG V M 51
GIYERS G 72
GLADUSHCHAK V I 55
GLAZOV G N 30,31,33
GLUSHKO V N 30
GNATOVSKIY A V 10
GODLEVSKIY A P 1
GOL'DFARB V M 51
GOL'DORT V G 52
GOLOVCHAK N V 9
GOMENYUK A S 47
GORBACHEV V A 14
GORBUNOV L M 10
GORBUNOV V M 55
GORDEYEV A N 43
GORDIYENKO V M 19,46,55
GORELIK V S 63
GOROKHOV A A 72
GOROKHOV YU A 46
GORSHKOV V A 24
GORYACHEV B V 34
GOVORUKHIN V I 13
GREGUSS P 26
GRIBKOV V A 71
GRIGOR'YANTS V V 28
GRIGOR'YEV V M 2,34,55
GRISHIN A I 34
GRODZOVSKIY G L 53
GUBKIN YU S 43
GULYAYEV YU V 28
GURYANOV N A 27
GUR'YANOV A N 41
GUR'YEV V I 11
GUSAKOV YE Z 72
GUS'KOV L N 55,56
GUS'KOV S YU 73
GYRDEV L L 20

H

HAMAL K 1
HAMORI A 14,43
HATTENBACH A 69
HERCHOLD W 63
HERRMANN J 21,23
HEUMANN E 63
HOFFMANN K 50
HOFFMANN P 64
HOLZHAUER E 73

I

IDIATULIN V S 24
IGNATAVICHYUS M 16
IGNATAVICHYUS M V 10
IGONIN G M 33
IL'CHISHIN I P 10
IL'IN G I 20
IL'IN YU B 25
IL'YASHENKO V S 22
IMAS YA A 60
ISAKOV A I 71
ISBASESCU M 3
ISYANOVA YE D 15
IVAKIN YE V 20
IVANOV A I 30,34
IVANOV A O 1
IVANOV A P 23
IVANOV A V 62
IVANOV G A 20
IVANOV R S 7
IVANOV S G 47
IVANOV V B 72
IVANOV V P 33
IVANOV V S 40

IVANOVA Z A 16
IZAKSON G M 10

J

JAMROZ W 21
JEZOWSKA-TRZEBIATOWSKA B 22
23,66
JIRACEK M 41
JURGEIT R 54

K

KABANOV G L 50
KABANOV M V 31,39
KABELKA V 16,17,52
KALABUKHOVA V F 60
KALABUSHKIN O I 53
KALACHEV N V 71
KALASHNIKOV M P 72
KALAYDA A F 74
KALEV KH A 68
KALININ V N 3
KAMINSKIY A A 22
KAMLYUK S N 43
KAMRUKOV A S 11,24
KAPANADZE V I 44
KAPERSKIY L N 53
KAPLYANSKIY A A 60
KAPP I 63
KARABUTOV A A 19
KARAVAY L P 59
KAREVA V A 61
KARLOV N V 7,46
47,48
KARNIEWICZ J 21
KARNYUSHIN V N 9
KARPOV S V 59
KARPUKHIN V T 7
KASCHIYEVA S B 65
KASHNIKOV G N 11
KASOYEV S G 20,39
KASYMOV M K 43
KASYMOVA S S 4
KATULIN V A 14
KAUL' B V 40
KAZARYAN M A 9
KAZARYAN R A 33
KECHKEMETI I 5
KEL'DYSHEVA L I 30
KESAMANLY F P 64
KHALEZOV A A 63
KHARITONOVA YA I 10
KHASENOV M U 7
KHESED YE A 48
KHIMINETS V V 63
KHINRIKUS KH V 38
KHIZHNYAK A I 44,45
KHLYAVICH YA L 48
KHMELEVTSOV S S 31
KHMEL'NITSKIY G S 8,29,37
39
KHODOVOY V A 56
KHOFFMANN K 48
KHOLIN I V 6,73
KHRISTOV B A 28,40
KHROMOV V V 56
KIEFER W 65
KIELICH S 21
KIMMER W 59
KIR'YANOV V I 11
KISELEV M I 50
KISELEV V YA 9
KISLITSKAYA YE A 56
KISS G 40
KITAYEVA YE L 42
KLEMENT'YEV V M 54
KLIMKIN V M 8
KLIMOV I I 41
KLIMOV V D 48
KLOCHKOV V P 61,63
KLOSE E 4
KLYAVIN'SH YA P 48
KLYUKANOV A A 24
KLYUSHNIK V N 28
KNEIPP H 9,19
KNEIPP K 22
KNESEL L 16
KNYAZEV I N 48
KNYAZ'KIN V V 33,37
KOCH E 56
KOGEL'SHATS U 73
KOKORINA V F 56
KOLBASOV G YA 2
KOLOGRIVOV A A 73
KOLOKOLOV A A 19
KOLOMIYETS S M 50
KOLOMIYSKIY YU A 47
KOLOSOV M A 31
KOLTUN V L 6
KOLYUSHENKO YE A 34
KOMAR V G 45
KOMPANETS I N 41,42
KONDAKOV A A 7
KONDRATYUK I I 6
KONEV YU B 12
KONONOV E YA 73
KONOV V I 70
KOPYLOVA I M 34
KOPYTIN YU D 20,40
KORDA I M 15
KORDONSKIY V I 53
KORENEVA N A 28
KORMAKOV A A 49
KORNIYENKO V V 51
KOROLENKO P V 12
KOROLEV M N 7
KORONKEVICH V P 41,53
KOROTAYEV G K 57
KOROTEYEV N I 20,47
KORSHUNOV I P 28
KOSAREV A I 62
KOSHELEV A V 28
KOSOBOKOVA N L 45
KOSTIN B S 34,38
KOSTYLEV A A 13
KOSYREV F K 6
KOTYUK A F 49
KOVAL'CHUK B M 7
KOVALENKO V I 51
KOVALENKO V F 64
KOVALEV V A 29
KOVALEV V I 69
KOVALEVICH YE F 35,36
KOVSH I B 7
KOWARSCHIK R 43
KOZENKOV V M 42,64
KOZHEVNIKOV A N 35
KOZINCHUK V A 35
KOZLOV B M 68
KOZLOV N P 11,24
KOZLOV V S 35
KOZLOVA T A 71
KOZLOVSKIY V I 41
KOZMA L 5
KOZUBOVSKIY V R S 4
KOZYREVA YE B 64
KRASIKO A I 2
KRAVETS A N 42,43
KRAVTSOV A L 57
KRAVTSOV N V 12
KREKOV G M 39,40
KREKOVA M M 40
KREYAKOV G M 31
KRIVOVYAZ A L 55
KROKHIN O N 71,73
KROPOTKIN M A 27,56
KRUGLIK G S 57
KRUGLOV R A 35
KRUMIN' A E 61
KRUPA N N 42
KRUTOVA V G 11
KRYLOV K I 75
KRYNETSKIY B B 47,64
KRYUKOV P G 70
KRYZHANOVSKIY I I 1
KTALKHERMAN M G 10
KUBECEK V 1
KUCHARCZYK W 21
KUCHEROV V S 9
KUCHINSKIY A A 76
KUDINOV A P 38
KUDRYAVTSEV YU A 10
KUDRYAVTSEVA A D 45
KUDZIN A YU 20
KUEHLKE D 14
KUKHARSKIY R N 44
KUKHTAREV N V 45
KULEVSKIY L A 64
KULIKOVSIY B N 5
KUMAKHOV M A 24
KUMEYSHA A A 23
KUNAKOV S K 7
KUPRIS R 52
KUPRISHOV V F 16
KUROV G A 56
KUTELEV A F 35
KUTIK M 12
KUTSAK A A 57
KUTUKOV V B 35
KUZIKOVSKIY A V 31,39,70
KUZ'MIN G P 7
KUZ'MIN R N 24
KUZ'MIN S G 61
KUZ'MINA N P 10
KUZ'MINOV YU S 63
KUZNECHIK O P 35,36
KUZNETSOV YU YE 53
KUZNETSOV YU A 54
KUZNETSOVA S V 46

KVAPIL J 50
KVAPIL JOS 50
KVASNIKOV YE D 64
KVASNITSA M S 55

L

LAGUTIN M F 4
LARINA R R 69
LATUSH YE L 9
LAU A 18
LAVROV V I 49
LAYEVSKIY V S 48
LAZAREV L E 3
LAZARUK A M 20
LEBEDEV A I 64
LEBEDEV O L 14
LEBEDEV V G 5
LEGASOV V A 48
LENZ H 26
LENZ K 18
LESSKIS A G 35
LETOKHOV V S 47,48
LEUPOLD D 64
LEVICHEV A S 41
LEVIN M B 4
LEVINSON G R 67
LEVITSKIY M YE 39
LEVKIN L V 5
LEZHAVA B S 3,49
LEZHAYEVA B S 28
LEZHEN A S 52,57
LIBENSON M N 68
LISITSA M N 65
LISITSA M P 61
LISITSYN V N 54
LIVSHITS G SH 30
LOBANOV A N 6
LOGINOV A P 10
LOGINOV A S 2
LOKHMAN V N 47
LOKHNYGIN V D 68
LOKSHIN M M 65
LOMONOVA YE YE 60
LONDER YA I 13
LOPASOV V P 39
LUKIN B I 41
LUKOSHYUS I I 69
LUK'YANETS YE A 14
LUNTER S G 3
LUTOSHKIN V I 43
LYAKHOV G A 15
LYAMSHEV L M 20,39
LYSENKO V S 65
LYUBCHENKO V V 1

M

MACHELEIDT G 19
MADOYAN A O 60
MAGNITSKIY S A 16
MAK A A 3,72
MAKAROV A S 33
MAKAROV G N 46
MAKAROV V A 15
MAKAROV V N 4
MAKAROV YE F 11
MAKEYEV YE P 13
MAKHOV YE M 13
MAKIN V S 61
MAKIYENKO E V 34,36
MALDUTIS E K 69
MALIKOV M M 7
MALINOVSKIY V K 41
MALITSKAS A 52
MAL'KOV V M 10
MALTABAR A I 28
MANDZHIKOV V F 61
MARCHENKO O M 35
MARCHENKO V G 13
MARDENOV M P 7
MARGOLIN V S 14
MARKIN A S 49
MARKOV V B 44,45
MARKOVA S V 9
MARONCHUK I YE 64
MARUSYAK V D 32
MASENKO B P 64
MASHINSKIY A L 36
MASLOV A I 46
MATVEYEV I N 22,29
MATVIYENKO G G 30,34
MATYUGIN YU A 54
MATYUSHKIN E V 62
MAVRIN B N 65
MAYOROV V S 65
MAZURAK Z 22
MECHETNER B KH 14
MECHKOV D I 16
MEDVEDEV R N 72
MEISEL E 48,59
MEKHRYAKOVA N G 14
MELEKH B T 40
MELLE W 69
MEL'NIKOV N A 18
MEL'NIKOV V YE 4
MERZLYAKOV N S 44
MESYATS G A 7
METEV S M 68,70
METLITSKIY B I 34,36,55
MEYKE A V 66
MEYSNER L B 60
MICHALSKI W 8
MIKABERIDZE A A 50
MIKAELYAN A D 16
MIKHALEVSKIY V S 9
MIKHAYLIK V G 67
MIKHAYLIN V V 23
MIKHAYLOV G A 30
MIKHAYLOV YU A 72
MIKHAYLOV YU N 49
MIKHEYEV L D 10
MIKHEYEV YU S 50
MILENKO I I 57
MILOSLAVSKIY V K 60
MILYUKOV YE M 4
MINAYEV A M 8
MIN'KO L YA 70
MIRKIN L I 68,69
MIROVITSKIY D I 43
MIRZAYEV A T 46
MISHIN V A 64
MISHIN V I 4,47
MISHTA L 18
MIS'KEVICH A I 22
MITEV V M 16
MIT'KOVA G V 26
MITSENKO I D 13
MOCHALOV I V 1
MOGIL'NITSKIY S B 34
MOKHIR A P 67
MOROZ E V 57
MOROZOV A M 2
MOROZOV B N 50
MORY S 64
MOSHCHENNIKOV YU V 15
MOSKALEV A N 62
MOSSAKOVSKIY V I 70
MOSTOVNIKOV V A 15
MOTKIN V S 15
MOVSESYAN M YE 9,65
MOVSHEV V G 48
MOZOL' P YE 61
MOZOL'KOV A S 53
MULLER R 21
MUL'CHENKO B F 6
MUMLADZE V V 44
MURAV'YEV N I 67
MURINA T A 57
MUSTETSOV N P 4
MYSHALOV P I 15

N

NAATS I E 34,36,38,39
NAKHODKIN N G 44
NALIMOV I P 42
NASIBOV A S 41
NASTOYASHCHIY A F 73
NASYROV U 65
NAUMOV V G 13
NAZAROV A N 65
NEBOL'SIN M F 31,32
NEDAVNIY A P 15,54
NEDOSPASOV A V 7
NEEF E 21
NELEPO B A 57
NEPORENT B S 61
NESTERIKHIN YU YE 41
NEUSTRUYEV V B 27
NEWIEKI R 8
NEYMAN M S 76
NICKLESS P V 54
NICULESCU CL 27
NIECHODA Z 15
NIKIFOROVA N K 36
NIKITIN A I 12
NIKOLAYEV A N 51
NIKOLAYEV V P 7,31
NIKULIN V YA 71
NINOYAN ZH O 65
NITSCH W 65
NITSOLOV S L 21
NIZAMETDINOV M M 68
NOSOV V B 56
NOVIKOV S S 31
NOVOSELETS M K 44
NOWAK W 29
NOWICKI M 15

O

OBODAN N I 70
ODINTSOV A I 12
ODULOV S G 44,45
OGANESYAN S G 24
OLENNIKOV V L 35
ORAYEVSKIY A N 11,12
ORLOV V K 11
ORLOV V M 35
ORLOVA N G 51
ORLOVSKIY V M 7
OSIKO V V 60
OSIPOV V V 7
OVAKIMYAN T O 9
OVCHINNIKOV V M 15
OVECHKINA T F 45
OVECHKIS YU N 42
OVECHKO V S 13

P

PAERSCKE H 65
PAKHALOV V B 5
PAKHOMOV L N 76
PANCHENKO I V 36
PANCHENKO M V 36
PANCHENKO V YA 46
PANFILOV V N 47
PAPERNOV S M 48
PARINOV S T 60
PASHCHENKO V Z 58
PASTUSHKOV A A 59
PAUL H 24,58
PAVLOV L I 16
PAVLOVA L N 36
PECHENOV A N 41
PEKA G P 64
PELEKHATYY V M 15
PELIPENKO V I 41
PERESH YE YU 66
PERINA J 16,18
PERINOVA V 16,18
PERLIN A S 51
PERNER B 50
PERREN A A 57
PETRASH G G 9
PETROV A I 49
PETROV A S 29
PETROV K I 22
PETROV M V 2
PETROV YU N 48
PETROVA A D 71
PETROVA D S 22
PETROVA N A 2
PETROVA V N 28
PETROVICH I P 20
PETRUN'KIN V YU 76
PETUKHOV A V 10
PETUNIN A N 53
PEVTSOV A B 40
PFEIFFER M 18
PIGULEVSKIY YE D 57
PIKULEV A N 28
PIKUZ S A 72
PILIPETSKIY N F 18
PILIYA A D 72
PILZ W 66
PINCHUK S D 38
PISKARSKAS A 16,17,18,52
PIS'MENNYY V D 6
PKHALAGOV YU A 36,37
PLINSKI E 8
PLYUSNIN I I 48
PODOBEDOV V B 66
POKATILOV YE P 24
POL'KIN V V 35
POL'MA E P 38
POLONIN A K 58
POL'SKIY YU YE 28
POLYACHEK G P 56
POLZE S 4
PONATH M E 19,22
POPESCU D 58
POPESCU I I 58
POPESCU I M 8
POPKOV YU A 67
POPONIN V P 72
POPOV A K 17
POPOV L N 50
POPOV YU M 41
POPOV YU V 14
POPYTAYEV A N 72
POTAPOV V K 48
POTAPOV V T 28
POZHIDAYEV V N 27,29,31
PREDA A M 8
PRESNYAKOV YU P 43,57
PRILEZHAYEV D S 49
PROKHOROV A M 7,15,41,47
PROKOP'YEV V YE 48,64,70
PROSHIN V I 8
PROTASOV YU S 41
PRZHEVUSKIY A K 11,24
PUGACH I P 3
PURETSKIY A A 74
PUSTOVALOV V K 46
PUSTOVALOV V V 37
PYNDYK A M 13

R

RAAB S 66
RADCHENKO I D 58
RADLOFF W 4
RAL'CHENKO V I 58
RAMAZASHVILI R R 5
RATS B 18
RAUTIAN S G 5
RAYZER YU P 25
RAZUMOVA T K 18
REHAK V 19
REICHE P 53
REINHOLD B 22
RENTSCH M 17
RESHETNYAK S A 9
RESHILOV A B 10
REYNO V V 19,55
REZNICHENKO V YA 33
REZOV A V 61
RIGAN M YU 47
RITZE H H 66
RODICHKIN V A 10,48,58,59
ROMANOV A B 76
ROMANOV YU F 13
ROMETSCH W 40
ROSLYAKOV V A 58
ROTHARDT L 17
ROZANOV N N 73
ROZANOV V B 57
ROZHKOV O V 73
ROZNIAKOWSKI K 44
RUBANOV A S 49
RUBANOVA G M 20
RUBIN L B 68
RUBIN P L 58
RUBININA N M 8
RUBINOV A N 16
RUDASH V K 5,15
RUDENKO O V 37
RUSTAMOV KH SH 19
RYABENKO A G 63
RYABOV YE A 11
RYBA-ROMANOWSKI W 47
RYKALIN N N 22
68

S

SADOVNIKOV P P 31
SADOWSKI M 73
SAFRONOV YU A 9
SAKAYEV R I 15
SALAMAKHA B S 22
SALK J 26
SALMANOV V M 60
SALTIYEL S M 60
SALYADINOV V S 53,68
SAMBORSKIY V A 6
SAMOKHIN A A 68
SAMOKHINA M A 19
SAMOKHVALOV I V 29,30,37
38,39
SAMUYLOV A V 53
SAPOGOV B A 9
SAPONDZHYAN S D 65
SARKAROV N E 12
SARKISOV S E 22
SARKISYAN D G 23
SARKISYAN G S 65
SAVCHENKO M A 13
SAVEL'YEV A D 47,64
SAVOST'YANENKO N A 44
SAVUKINAS A YU 25
SCHAEFER G 26
SCHIFFER F 69
SCHILDER D 29
SCHIPALOW A S 7,14
SCHMID W J 58
SCHREIBER W 46
SCHROETTER H W 58
SCHUBERT M 7,14
SCHULTZE D 22
SCHUMANN D 29
SECHKAREV A V 66
SEM M F 9
SENCHISHEN V A 47
SEMENOV A I 26
SEMENOV A V 16
SEMENOV A YE 66

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS. NUMBER 32. NOVEMBER---ETC(U)
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2 OF 2
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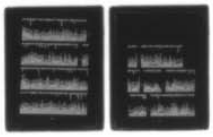

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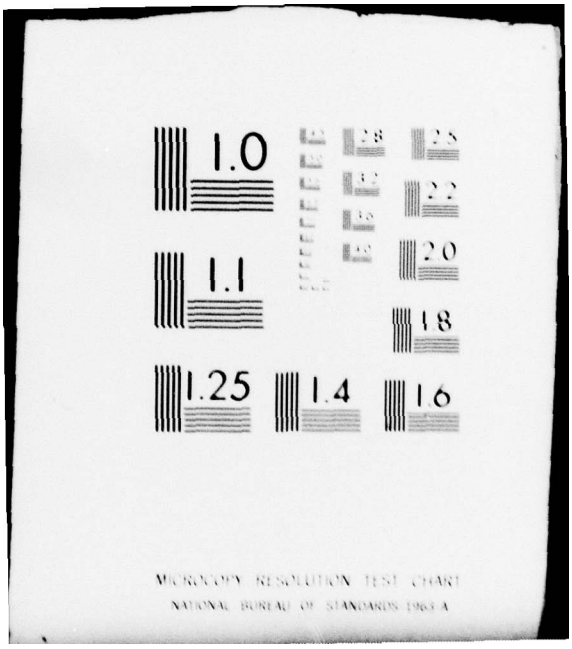
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SEMENOV E G 51
SEMENOV O G 71
SEMICHISHEN V A 4
SEMINOGOV V N 17
SEMOCHKIN P N 41
SENATSKIY YU V 3
SENYUKOV A I 6
SERGIYENKO N 67
SEROV O B 44
SEVERDENKO V N 58
SHABANOV V F 62
SHAKIROV A KH 42
SHAMANAYEV V S 37
SHANSKIY V F 7
SHAPIRO I YA 48
SHARIPOV KH T 22
SHARKHATUNYAN R O 60
SHASHKOV A G 71
SHASHKOV V M 13
SHCHAGINA N M 62
SHCHEGLOV V A 11
SHCHEGLOV V B 8
SHCHERBAKOV I N 58
SHCHERBAKOV YE A 15
SHCHUKIN G G 29
SHCHUKIN YE R 35
SHEKHTMAN V L 60
SHELEPIN L A 10,46
SHEMETOV V V 67
SHENYAVSKIY L A 54
SHEPEL' L G 64
SHEPELEV A V 23
SHEVELEVA T YU 27
SHEVELEVA T YU 56
SHIKANOV A S 1,73
SHIMON L L 9
SHIPILIN A V 13
SHISHAYEV A V 54,55,56
SHISHKINA V A 51
SHISHKOVSKIY V I 38
SHIYENOK G G 59
SHKLYAREVSKIY I I 60
SHKUNOV V V 18,19
SHMAL'GAUZEN V I 19,54,55
SHOROKHOV O A 12
SHPAK M T 15,18,54
SHREYDER YE YA 55
SHTERNBERG A R 62
SHUBIN S F 8,37
SHULEYKIN V N 37
SHULTIN A A 59
SHULYAKOVSKIY G YE 33,37
SHULYAKOVSKIY T YE 37
SHUMATSKIY P S 49
SHUMILKIN V G 53
SHUVALOV L A 62
SILENOK A S 70
SILIN V P 71
SIMONOV A P 23
SIMONOVA N V 71
SINITSA L N 39
SINITSYN A B 23
SISAKYAN I N 41
SKLIZKOV G V 1,71,72,73
SKOROKHOD M YA 2
SKVORTSOV M N 54
SLEMZIN V A 73
SLEPKOV I A 42
SLIVKA V YU 66
SLOMINSKIY YU L 4
SMIL'GYAVICHYUS V 16
SMIRNOV V I 41
SMIRNOV V N 61
SMIRNOV V S 5
SMIRNOV V V 47,64
SMIRNOVA YE L 41
SMOLENTSEV I V 9
SMOLOVICH A M 44
SMOL'SKIY M B 53
SMOLYA A V 41
SMYSLOV YE F 68
SNEZHKO YU A 67
SNYKOV V P 36
SOBEIKH M A 60
SOBEL'MAN I I 46
SOBOLEV G A 44,45
SOBOLEWSKA B 66
SOKOLOV A V 31,37
SOKOLOV N A 71
SOKOLOVSKAYA A I 45
SOKOLOVSKIY R I 24
SOLOUKHIN R I 9
SOLOV'YEV V YE 2
SOLYAR N M 73
SONIN A S 42
SONNEFELD D 17
SOROKA A M 13
SOROKIN YU M 67
SOSKIN M S 45
SOSNIN A V 29,37,39
SOSNIN S P 20
SOSOV YU M 20
STABINIS A 16,17
STACHOWIAK J 21
STAMENOV K V 16,68
STANCIULESCU C 58
STARIKOV A D 72
STAROBOGATOV I O 19
STARODUBTSEV E V 48
STAROSTIN A N 17
STAVROVSKIY D B 10
STEPANENKO V D 38
STEPANOV A A 11
STEPANOV B M 50,51
STEPANOV K G 35
STERIN KH YE 65,66
STERLIGOV V A 2
STERT V 48,59
STOTSKIY G I 7
STREK W 23,66
STRELKOV G M 37
STREL'NIKOVA I A 64
STREY G 18
STRIZHEVSKIY V L 13
STROKACH YU P 61
SUCHKOV A F 6,13,52
SUDARKIN A N 18
SUESSE K E 65
SUKHMAN YE P 45
SUKHORUKHOV A P 34
SUKOV A I 19
SURAN V V 66
SUSHCHINSKIY M M 63
SUSLIKOV L M 66
SVET V D 45
SVIRIDENKOV E A 52
SVIRIDOV A N 8
SYBEVA M L 47
SYNAK R 40
SYRBU A V 2
SZAFRANSKI C 23,66
SZUBANSKI W 49

T

TAL'ROZE V L 11
TANTASHEV M V 32
TATARENKOV V M 49
TATARINTSEV V I 60
TERENT'YEV A P 13
TER-MIKAELYAN M L 23
TER-POGOSYAN A S 6
TER-POGOSYAN M A 4
TIKHOMIROV A A 29
TIKHOMIROV I A 38
TIKHONCHUK V T 71
TIKHONOV A P 34,37,55
TIKHONOV YE A 18
TIMKO J J 59
TIMOFEYEV A I 59
TIMOFEYEV V A 6
TIMOFEYEV V P 17
TIMONIN A M 7
TITOV R A 60
TITOV YE A 54
TKACHUK A M 2
TOLSTOY M N 3
TOMSON N G 56
TRAVIN G A 40
TREGUB D P 20
TREKHOV YE S 36
TRET'YAKOV G K 31
TRIEBEL W 63
TRIFONOV YE D 11
TROFIM V G 2
TROFIMOV A N 9
TROITSKIY I N 43
TROKHAN A M 59
TRON'KO V D 54
TROSHIN B I 54,55,56
TRUBACHEYEV E A 8
TSARFIN V YA 51
TSIBUL'KIN L M 45
TSITROVSKIY V V 63
TSVETKOV M YU 1
TSVETKOV YE A 23
TSVYK R SH 33
TUMAKOV A G 36
TUNKIN V G 16,60
TURKOV YU G 16
TURYANITSA I D 63
TUZOV L V 69
TUZOV O L 33
TUZOV V G 72
TYABOTOV A YE 37
TYAGAY V A 2
TYAVLOVSKIY M D 58
TYCHINSKIY V P 67

U

UDAL'TSOV V S 4
UDOD L V 66
UECKER R 22
UGLOV A A 68
UKHANOV YU I 41
ULENBUSH D 72
UL'YANOV K N 13
UMAROV B S 63
USANOV YU YE 45
USPENSKIY A B 68
USPENSKIY A V 24,58
USTINOV N D 22,29
UZHEGOV V N 36,37

V

VAGIN N I 29
VAKSMAN V M 67
VANIN V A 51
VARDANYAN G A 15
VARGA P 48
VASILENKO L S 52,54
VASILEVSKAYA A S 42
VASIL'YEV G D 11
VASIL'YEV G K 11
VASIL'YEV V P 44
VAS'KO F T 25
VAULIN P P 35
VAYNRIB YE A 58
VAYTKUS YU 42
VDOVIN V A 45
VENATOVSKIY I V 1,15
VERBOVETSKIY A A 42
VERETENNIKOV V A 71
VERETENNIKOV V V 38
VERTUSHKIN V K 58
VETKINA S N 25
VEYKO V P 68
VIGASIN A A 17
VINETSKIY V L 45
VINOGRADOV A K 42
VIRNIK YA Z 11
VISHNEVSKIY A A 26
VITRIKHOVSKIY N I 2
VLASOV A F 15
VLASOV N G 45
VOIGT B 64
VOLCHKOV YU G 15
VOLKOV V I 42
VOLKOVITSKIY O A 38
VOLOSHINA N I 28
VOL'TER V G 8
VOROB'YEV N I 38
VOROB'YEV V V 38,67
VORONIN V B 71
VORONKOV E N 15
VOYTOVICH A P 6
VOYTSEKHOVSKIY A V 29

W

WARENTYCIA T 21
WECHOREK L W 17
WEIBNER B 23
WEIGMANN H J 18
WEJMAN W 63
WELSCH D G 65
WENKE L 46
WERNKE W 18
WIEDERHOLD G 7,14
WILHELMI B 21
WILHELMI B 63
WITKE K 59
WOLF L 49

Y

YAKOVLEV V P 2
YAKOVLEVA ZH S 64
YALAMOV YU I 35
YALOVOY V I 18
YANSON N L 48
YARASHONAS K 42
YAROSLAVSKIY L P 44
YASEVICHYUTE YA 17
YASTREBOV A A 42
YATSENKO YU P 12
YATSKEYEV YU F 48
YEFREMOV A V 33
YEFREMOV YE L 28
YEGOROV A B 38
YELETSKIY A V 48
YEMEL'YANOV V I 67
YEREMENKO A S 4
YEREMENKO V V 62,67
YEREMINA I V 27
YEVDOKIMOV S V 1,15
YEVLASHEVA T I 48
YEVTIKHIYEV N N 59,67
YUKOV YE A 46
YUNOVICH A E 64
YURASOV N I 41
YURKEVICH B M 68
YUSHIN A S 27
YUSHIN N K 28
YUSKESELIYEVA L G 51

Z

ZAKHARCHENKO S V 50
ZAKHARENKOV YU A 73
ZAKHAROV B V 38
ZAMKOVOY L YA 70
ZAPOROZHETS V V 74
ZARIDNYY A A 4
ZAVORUYEV YU V 43
ZAV'YALKIN F M 55
ZAYTSEV A I 11
ZAYTSEV YU I 9
ZEL'DOVICH V YA 19
ZEL'TSOVICH B YA 18
ZEMLYANOV A A 70
ZEYNALLY A KH 68
ZHABOTINSKIY M YE 5,19
ZHAK V D 9
ZHAROV V P 57
ZHERIKHIN A N 70
ZHOKHOV V P 26
ZHUKOV A F 33
ZHUKOV V V 9
ZHUKOVETS ZH G 53
ZIERMANN R 69
ZOLIN V F 19
ZOLOTOV YE M 15
ZOREV N N 1
ZUYEV V S 10
ZUYEV V YE 38,39,40
ZVEREV G F 40
ZVEREV V N 63
ZVORYKIN V D 6