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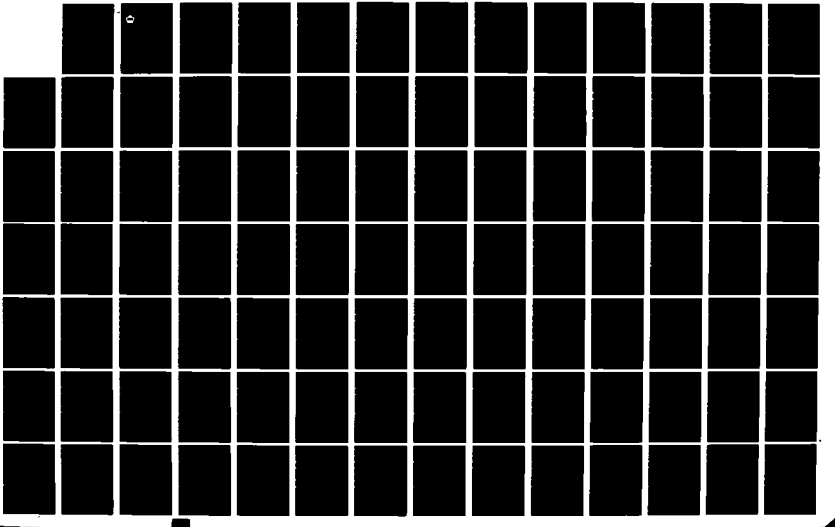

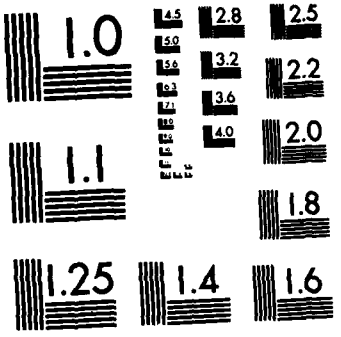

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 55

SEPTEMBER - OCTOBER 1981

Date of Report

November 30, 1982

Vice Director for Foreign Intelligence
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20. ABSTRACT

This is the Soviet Laser Bibliography for September-October 1981, and is No. 55 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; crystal growing; 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.

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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 September-October 1981, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the aurhors' 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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SOVIET LASER BIBLIOGRAPHY, SEPTEMBER - OCTOBER 1981

TABLE OF CONTENTS

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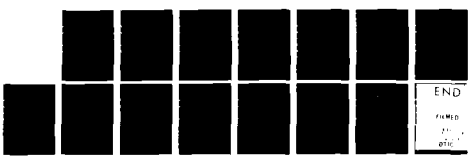

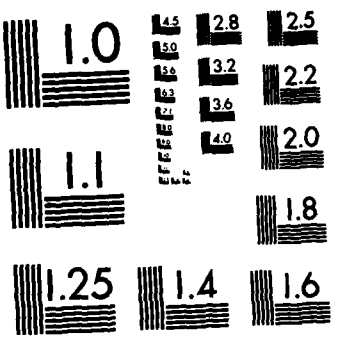

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IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
APC	(APYCA)	Acta physica et chemica. Szeged
APH	(APAHA)	Acta physica Academiae scientiarum hungaricae
APP	(APTLB)	Acta physica polonica
BAPS	(BAPTA)	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
CCF	(CKCFA)	Ceskoslovensky casopis pro fyziku
DAN Az	(DAZRA)	Akademiya nauk Azerbaydzhanskoy SSR. Doklady
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
FAiO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotki materialov
FiKhS	(FKSTD)	Fizika i khimiya stekla
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN Khim	(IASKA)	Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya
IAN Tadzh	(IATOA)	Akademiya nauk Tadzhikskoy SSR. Izvestiya. Otdeleniye fiziko-matematicheskikh i geologokhimicheskikh nauk
I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika

IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
JMO	(JMKOA)	Jemna mechanika a optika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOB)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PSS	(PSSAB) (PSSBB)	Physica Status Solidi (A). Applied Research (B). Basic Research
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RRP	(RRPZA)	Revue roumaine de physique
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(RZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Fizicheskiye protsessy v priborakh elektronnoy tekhniki. Moskva, 1980.
Sb2		Vsesoyuznaya konferentsiya po fizike elektronnykh i atomnykh stolknoveniy. 8th. Leningrad, 29 Sep-2 Oct 1981. Tezisy dokladov. Leningrad, 1981.
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Sb14 Proyektirovaniye antenn i ustroystv SVCh s primeneniyem EVM. Moskva, 1980.

Sb15 Avtomatizatsiya geofizicheskikh issledovaniy. Polyarnyy geofizicheskiy institut AN SSSR. Apatity, 1980.

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Sb17 Voprosy metodiki prepodavaniya fiziki v sredney shkole. Cheboksary, 1980.

Sb18 International Symposium on Model Investigations of the Photographic Process and New Photoregistering Systems. 2nd. Varna, 28 Sep - 5 Oct 1980. Papers. Preprints. Vol. 2, place and year of publication not given. (Russian title: Mezhdunarodnyy simpozium po model'nym issledovaniyam fotograficheskogo protsessa i novym fotoregistriruyushchim sistemam).

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Sb26		Voprosy atomnoy nauki i tekhniki. Yadernyye konstanty, no. 2/41, Moskva, 1981.
SCF	(SCEFA)	Studii si cercetari de fizica
TiEKh	(TEKHA)	Teoreticheskaya i eksperimental'naya khimiya
TiMF	(TMFZA)	Teoreticheskaya i matematicheskaya fizika
Trl	Trudy	Leningradskiy politekhnicheskiy institut. Trudy, no. 371, 1980.
TVT	(TVYTA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VBU	(VBMFA)	Belorusskiy universitet. Vestnik. Seriya 1. Matematika, fizika, mekhanika
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
ZhETF	(ZETFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	(ZFKHA)	Zhurnal fizicheskoy khimii
ZhNKh	(ZNOKA)	Zhurnal neorganicheskoy khimii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki

ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZL	(ZVDLA)	Zavodskaya laboratoriya

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NS. Non-Soviet
0. Affilitation not given
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29. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
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49. Vilnius State University (Vil'nyusskiy GU).
51. Kiev State University (Kiyevskiy GU).
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53. Chernovtsy State University (Chernovitskiy GU).
59. Institute of Physics Research, AN ArmSSR (Institut fizicheskiy issledovaniy AN ArmSSR).
60. Institute of Physics, AN AzSSR (Institut fiziki AN AzSSR).
64. Institute of Atmospheric Physics, AN SSSR (Institut fiziki atmosfery AN SSSR).
66. Institute of Solid State Physics, AN SSSR (Institut fiziki tverdogo tela AN SSSR).
67. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
71. Institute of Applied Mathematics, AN SSSR (Institut prikladnoy matematiki AN SSSR).
72. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
73. Institute of Theoretical Physics im Landau, AN SSSR (Institut teoreticheskoy fiziki im Landau AN SSSR).
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141. All Union Scientific Research Institute of Optophysical Measurements (VNII optiko-fizicheskikh izmereniy).
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184. Institute of Geochemistry and Analytical Chemistry im Vernadskiy, AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii im Vernadskogo AN SSSR).
188. All Union Scientific Research Institute of Single Crystals, Scintillation Materials and Extra Pure Chemical Substances, Khar'kov (VNII monokristallov, stsintillyatsionnykh materialov i osobo chistykh khimicheskikh veshchestv).
193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).
216. Kazan' Aviation Institute (Kazanskiy pedagogicheskiy institut).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
283. Institute of Physics of Metals, AN UkrSSR, Kiev (Institut metallofiziki AN UkrSSR).
295. Institute of Chemical Kinetics and Combustion, Siberian Branch, AN SSSR, Novosibirsk (Institut khimecheskoy kinetiki i goreniya SOAN).
298. Institute of Electrodynamics, AN UkrSSR (Institut elektrodinamiki AN UkrSSR).
311. All Union Scientific Research Institute of Mineral Resources, Moscow (VNII mineral'nogo syr'ya).
323. Leningrad Institute of Motion Picture Engineers (Leningradskiy institut inoinzhenerov).
334. Scientific Research Institute of Applied Physical Problems at Belorussian State University (NII prikladnykh fizicheskikh problem pri Belorusskom GU).
337. Computer Center, AN SSSR (Vychislitel'nyy tsentr AN SSSR).
396. "Optika" Special Design Burea for Scientific Instrument Manufacture, Siberian Branch, AN SSSR (Spetsial'noye konstruktorskoye byuro nauchnogo priborostroyeniya "Optika" SOAN).
426. Institute of Applied Physics, AN SSSR, Gor'kiy (Institut prikladnoy fiziki).
435. Simferopol State University (Simferopol'skiy GU).
478. Odessa State Pedagogical Institute (Odesskiy gos pedagogicheskiy institut).
487. Dnepropetrovsk Branch of the Institute of Mechanics, AN UkrSSR (Dnepropetrovskoye otdeleniye Instituta mekhaniki AN UkrSSR).
491. Grodno State University (Grodnenskiy GU).
506. Institute of Physics, AN LitSSR (Institut fiziki AN LitSSR).
507. Institute of Solid State and Semiconductor Physics, AN BSSR, Minsk (Institut fiziki tverdogo tela i poluprovodnikov AN BSSR).
511. Institute of Applied Problems in Mechanics and Mathematics, AN UkrSSR, L'vov (Institut prikladnykh problem mekhaniki i matematiki AN UkrSSR).
512. Institute of General and Inorganic Chemistry, AN UkrSSR, Kiev (Institut obshchey i neorganicheskoy khimii AN UkrSSR).
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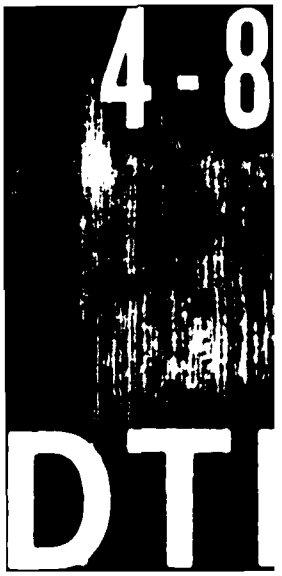
539. Department of Thermal Physics, AN UzSSR (Otdel teplofiziki AN UzSSR).
544. Irkutsk State University (Irkutskiy GU).
558. All Union Scientific Research and Test Institute of Medical Technology, Moscow (VNI i ispytatel'nyy institut meditsinskoy tekhniki).
560. Institute of High Energy Physics, Serpukhov (Institut fiziki vysokikh energiy).
565. Institute of Theoretical and Experimental Physics, Moscow (Institut teoreticheskoy i eksperimental'noy fiziki).

573. Yelabuga State Pedagogical Institute (Yelabuzhskiy gos pedagogicheskiy institut).
584. Institute of Chemistry, Ural Scientific Center, AN SSSR (Institut khimii Ural'skogo nauchnogo tsentra AN SSSR).
587. Vitebsk Branch of the Institute of Solid State and Semiconductor Physics, AN BSSR (Vitebskoye otdeleniye Instituta fiziki tverdogo tela i poluprovodnikov AN BSSR).
600. Ryazan' Medical Institute im Pavlov (Ryazanskiy meditsinskiy institut im Pavlova).
615. Institute of Mining im Skochinskiy, Lyubertsy (Institut gornogo dela im Skochinskogo).
616. Institute of Metallurgy, AN GruzSSR (Institut metallurgii AN GruzSSR).
631. Voronezh Civil Engineering Institute (Voronezhskiy inzhenerno-stroitel'nyy institut).
633. Scientific Research Institute of Prenatal Medicine, Obstetrics and Gynecology of the Ministry of Health of the Georgian SSR (NII perinatal'noy meditsiny, akusherstva i ginekologii Ministerstva zdravookhraneniya GruzSSR).
646. Institute of Geology AN AzSSR (Institut geologii AN AzSSR).
651. Higher Naval College of Radioelectronics im Popov, Petrodvoretsk (Vyssheye voyenno-morskoye uchilishche radioelektroniki im A.S. Pc
652. Institute of Electrochemistry, Ural Scientific Center, AN SSSR, Sverdlovsk (Institut elektrokhimii Ural'skogo nauchnogo tsentra AN SSSR).
653. Polar Geophysical Institute AN SSSR, Apatity (Polyarnyy geofizicheskiy institut AN SSSR).
654. Khabarovsk State Pedagogical Institute (Khabarovskiy gos pedagogicheskiy institut).
656. Central Scientific Research Institute of Organization, Mechanization and Technology of Construction (Tsentral'nyy NII organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stva).
657. "Electronika" Central Scientific Research Institute, Moscow (TsNII "Elektronika").

VI. AUTHOR INDEX


4-8
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