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No. 49

SEPTEMBER - OCTOBER 1980

Date of Report

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Vice Director for Foreign Intelligence
Defense Intelligence Agency

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20. ABSTRACT

This is the Soviet Laser Bibliography for September-October 1980, and is No. 49 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; 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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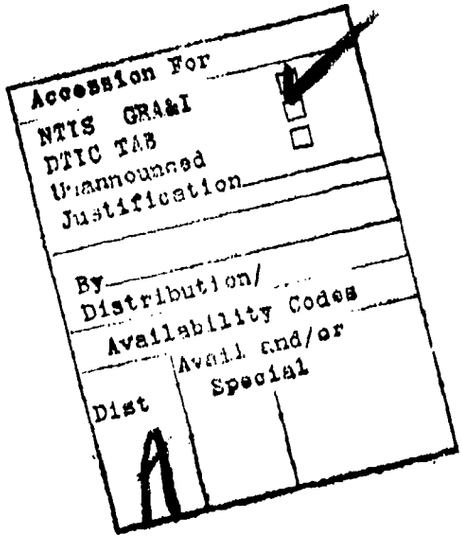
Introduction

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 1980, 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 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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IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
APH	(APAHA)	Acta physica Academiae scientiarum hungaricae
APP	(ATPLB)	Acta physica polonica
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
CCF	(CKCFA)	Ceskoslovensky casopis pro fysiku
CJP	(CZYPA)	Czechoslovak Journal of Physics
DAN Arm	(DANAA)	Akademiya nauk Armyanskoy SSR. Doklady
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovidi. Seriya A. Fizyko-matematychni ta tekhnichni nauky
FAiO	(IFAOA)	Akademiya nauk SSR. Izvestiya. Fizika atmosfery i okeana
FGiV	(FGVZA)	Fizika goreniya i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FiKhS	(FKSTD)	Fizika i khimiya stekla
F-KhMM	(FKMMA)	Fiziko-khimicheskaya mekhanika materialov
FMM	(FMMTA)	Fizika metallov i metallovedeniye
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Az	(IAFMA)	Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskiya
IAN Turk	(ITUFA)	Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk
IAN Uz	(IUZFA)	Akademiya nauk Uzbeksoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk

I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
JTP	(JTPHD)	Journal of Technical Physics [Poland]
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KiK	(KNKTA)	Kinetika i kataliz
KL	(KNLTA)	Knizhnaya letopis'
KLDV	(KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
Kristal	(KRISA)	Kristallografiya
KSpF	(KRSFA)	Kratkiye soobshcheniye 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'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOV)	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
Roz elektr	(RZETA)	Rozprawy elektrotechniczne
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika

RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Kvantovaya elektronika, no. 19, Kiyev, 1980.
Sb2		Issledovaniya v oblasti izmereniy vremeni i chastoty. Moskva, 1980.
Sb3		Sverkhvysokochastotnyye ustroystva izlucheniya i obrabotki radiosignalov. Kazan', 1979.
Sb4		Vazhneyshiye rezul'taty nauchno-issledovatel'nykh rabot 1978 goda. Institut vysokikh temperatur AN SSSR. Moskva, Nauka, 1979.
Sb5		Khimicheskaya fizika protsessov goreniya i vzryva. Kinetika khimicheskikh reaktsii. Vsesoyuznyy simpozium po goreniyu i vzryvu. 6th. Alma-Ata, 23-26 Sep 1980. Materialy. Chernogolovka, 1980.
Sb6		Khimicheskaya fizika protsessov goreniya i vzryva. Goreniye gazov i natural'nykh topliv. Vsesoyuznyy simpozium po goreniyu i vzryvu. 6th. Alma-Ata, 23-26 Sep 1980. Materialy. Chernogolovka, 1980.
Sb7		Konferentsiya molodykh uchenykh. 5th. 1980. Materialy. Moskovskiy fiziko-tekhnicheskiy institut, 1980. Deposit at VINITI, no. 2849-80, 7 July 1980.
Sb8		Problemy sovremennoy radiotekhniki i elektroniki. Institut radiotekhniki i elektroniki AN SSSR. Moskva, Nauka, 1980.
Sb9		Nauchno-tekhnicheskaya konferentsiya po informatsionnoy akustike. 5th. Trudy. Moskva, 1980.
Sb10		Emissionnaya i kvantovaya elektronika. Gologrefiya. Atomnaya radiospektroskopiya. Leningrad, Nauka, 1979.
Sb11		Vsesoyuznaya konferentsiya po besserebryannym i neobychnym fotograficheskim protsessam. 3rd. 1980. Vil'nyus, 1980.
Sb12		Fizika soyedineniy A^3B^5. Vsesoyuznaya konferentsiya. Materialy. Leningrad, 1979.
Sb13		Optoelektronika, kvantovaya elektronika i prikladnaya optika. Institut kibernetiki AN GruzSSR. Tbilisi, Metsniyereba, 1980.

Sb14		Acta Universitatis Palackianae Olomucensis. Facultas rerum naturalium, v. 61, Olomouc, 1979.
Sb15		Spektroskopicheskiye metody issledovaniya tverdofaznykh soyedineniy. Ural'skiy nauchnyy tsentr AN SSSR. Sverdlovsk, 1979.
Sb16		Tekhnika sredstv svyazi. Seriya Tekhnika radioveshchatel'nogo priyema i akustiki, no. 2, 1979.
Sb17		Issledovaniye atmosfernogo aerozolya metodami lazernogo zondirovaniya. Institut optiki atmosfery SOAN. Novosibirsk, Nauka, 1980.
Sb18		Zeszyty naukowe Universytet Lodzkiej, ser. 2, no. 26, 1979.
Sb19		Khimicheskaya fizika protsessov goreniya i vzryva. Goreniye kondensirovannykh i geterogennykh sistem. Vsesoyuznyy simpozium po goreniyu i vzryvu. 6th. Alma-Ata, 23-26 Sep 1980. Materialy. Chernogolovka, 1980.
Sb20		Khimicheskaya fizika protsessov goreniya i vzryva. Detonatsiya. Vsesoyuznyy simpozium po goreniyu i vzryvu. 6th. Alma-Ata, 23-26 Sep 1980. Materialy. Chernogolovka, 1980.
Sb21		Sovremennyye problemy ellipsometrii. Institut fiziki poluprovodnikov SOAN. Novosibirsk, Nauka, 1980.
Sb22		Sovershenstvovaniye tekhnologii i sredstva ugleobogashcheniya. Moskva, 1980.
Sb23		Fizicheskaya elektronika, no. 21, L'vov, 1980.
Sb24		Zeszyty naukowe Politechniki Lodzkiej, no. 349, 1979.
Sb25		Vsesoyuznyy simpozium po modul'nym informatsionno-vychislitel'nym sistemam. 2nd. Dubna, 1978. Trudy, Moskva, 1980.
Sb26		Vsesoyuznoye soveshchaniye po matematicheskomu modelirovaniyu i upravleniyu vysokotemperaturnymi protsessami v tsiklonnykh i vikhrevykh apparatakh, 21-33 May 1980. Tezisy dokladov. Odessa, 1980.
Sb27		Fizika kondensirovannogo sostoyaniya. Kiyev, 1980.
Sb28		Fizicheskiye protsessy pri gorenii i vzryve. Moskva, 1980.
Sb29		Dinamika izluchayushchego gaza, no. 3, Moskva, 1980.
SCF	(SCEFA)	Studii si cercetari de fizica
TKiT	(TKTEA)	Tekhnika kino i televedeniya
Tr1	Trudy	Tallinskiy politekhnicheskiy institut. Trudy, no. 492, 1980.

Tr2		Novosibirskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii. Trudy, no. 6/46, 1979.
Tr3		Fizicheskiy institut AN SSSR. Trudy, no. 124, 1980.
Tr4		NII gidrometeorologicheskogo priborostroyeniya. Trudy, no. 39, 1980.
Tr5		Glavnaya geofizicheskaya observatoriya. Trudy, no. 445, 1980.
Tr6		VNI kinofotoinstitut. Trudy, no. 99, 1980.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VBU	(VBMFA)	Belorusskiy universitet. Vestnik. Seriya 1. Matematika, fizika, mekhanika
VLU	(VLUBF)	Leningradskiy universitet. Vestnik. Fizika, khimiya
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
ZhETF	(ZEIFA)	Zhurnal eksperimentalnoy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	(ZFKHA)	Zhurnal fizicheskoy khimii
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
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
ZhVMMF	(ZVMFA)	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki
ZL	(ZVDLA)	Zavodskaya laboratoriya

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