BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

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OCTOBER - DECEMBER 1971

AFOSR - TR - 72 - 0960

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Riverdale, Maryland 20840

83

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) Informatics Inc. 6000 Executive Blvd Rockville, Md. 20852	2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED 2b. GROUP

3. REPORT TITLE

BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NO. 6

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Scientific... Interim

5. AUTHOR(S) (First name, middle initial, last name)

Stuart G. Hibben

6. REPORT DATE March 9, 1972	7a. TOTAL NO. OF PAGES 76	7b. NO. OF REFS
8a. CONTRACT OR GRANT NO F44620-70-C-0081 b. PROJECT NO AO 1622 d. 62701 D	9a. ORIGINATOR'S REPORT NUMBER(S) 9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) AFOSR - TR - 72 - 0960	

10. DISTRIBUTION STATEMENT

Approved for public release; distribution unlimited

11. SUPPLEMENTARY NOTES Tech. Other	12. SPONSORING MILITARY ACTIVITY Air Force Office of Scientific Research 1400 Wilson Boulevard (NPG) Arlington, Virginia 22209

13. ABSTRACT

This report covers the fourth quarter of 1971 with the major yield of information coming from the approximately 30 periodicals known to report the most advanced and interesting findings in Soviet laser technology. This as well as the previous reports covers the following topics: (1) laser research -- solid state, liquid, gas and chemical lasers; UV; components; nonlinear optics; spectroscopy of laser materials; short pulse generation; crystal growing; and general theory; (2) laser applications -- biological effects, communications, computer technology, holography, instrumentation, materials processing, and plasma generation.

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UNCLASSIFIED

Security Classification

BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 6, October-December 1971

Sponsored by

Advanced Research Projects Agency

ARPA Order No. 1622

March 9, 1972

This research was supported by the Advanced Research Projects Agency of the Department of Defense and was monitored by the Air Force Office of Scientific Research under Contract No. F44620-70-C-0081. The publication of this report does not constitute approval by any government organization or Informatics Tisco, Inc. of the inferences, findings, and conclusions contained herein. It is published solely for the exchange and stimulation of ideas.

ARPA Order No. 1622
Program Code No.: OF10
Name of Contractor:
Informatics Tisco, Inc.
Effective Date of Contract:
January 1, 1971
Contract Expiration Date:
December 31, 1971

Amount of Contract: $215,672
Contract No.: F44620-70-C-0081
Principal Investigator:
Stuart G. Hibben
Tel: (301) 779-2850
Short Title of Work:
"Soviet Lasers"

Prepared By

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Introduction

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

The period covered is the fourth quarter of 1971, and includes all significant laser-related articles received by us during that interval. The structure and selection criteria are basically those used in the preceding reports.

For convenience we have abbreviated frequently cited source names; a source abbreviation list and an author index are included. Unless indicated by a parenthesized (RZh, LZhSt) notation, all cited sources are available at Informatics Tisco, Inc.

Acknowledgement is due to the consultant effort of Mr. Yuri Ksander of the Rand Corporation for assistance in selection and structure of the material.

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IV. SOURCE ABBREVIATIONS

APP	-	Acta Physica Polonica
DAN BSSR	-	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	-	Akademiya nauk SSSR. Doklady
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	-	Fizika goreniya i vzryva
FiKhOM	-	Fizika i khimiya obrabotki materialov
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
IAN Seriya khimicheskaya	-	Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya
IAN B	-	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN LatSSR	-	Akademiya nauk Latviyskoy SSR. Izvestiya.
IVUZ Fiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Geod	-	Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka
IVUZ Priboro	-	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radiofiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
IVUZ Stroitel'stvo i arkhitektura	-	Izvestiya vysshikh uchebnykh zavedeniy. Stroitel'stvo i arkhitektura

KSpF	-	Kratkiye soobshcheniya po fizike
LetZhStat	-	Letopis' zhurnal'nykh statey
MZhiG	-	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM	-	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	-	Optika i spektroskopiya
OMP	-	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	-	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
Phys Abs	-	Physics Abstracts
PTE	-	Pribory i tekhnika eksperimenta
RiE	-	Radiotekhnika i elektronika
RZhElektr	-	Referativnyy zhurnal. Elektronika i yeye primeneniye
RZhElektrotekhnika i energetika	-	Referativnyy zhurnal. Elektrotekhnika i energetika
RZhF	-	Referativnyy zhurnal. Fizika
RZhFotokinotekhnika	-	Referativnyy zhurnal. Fotokinotekhnika
RZhGeod	-	Referativnyy zhurnal. Geodeziya i aeros"yemka
RZhInformatics	-	Referativnyy zhurnal. Informatics
RZhKh	-	Referativnyy zhurnal. Khimiya
RZhMetrolog	-	Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZhRadiot	-	Referativnyy zhurnal. Radiotekhnika

Sb 1	-	Kvantovaya elektronika. Sbornik. Moskva, No. 4, 1971
Sb 2	-	Kvantovaya elektronika. Sbornik. Kiyev, Naukova dumka, no. 5, 1971
Sb 3	-	Nekotoryye voprosy khimii i fiziki poluprovodnikov slozhnogo sostava. Sbornik. Uzhgorod, 1970
Sb 4	-	Poluprovodnikovyye pribory i ikh primeneniye. Sbornik statey. Moskva, Izd-vo Sovetskoye radio, no. 25, 1971
Sb 5	-	Kvantovaya elektronika i lazernaya spektroskopiya. Sbornik. Minsk, 1971
Sb 6	-	Zimnyaya shkola po teorii yadra i fiziki vysokikh energiy. 6th, 1971. Sbornik. Part 3. Leningrad, 1971
Sb 7	-	Khimiya i fizika nizkotemperaturnoy plazmy. Sbornik. Moskva, Izd-vo Moskovskiy universitet, 1971
Sb 8	-	Elektronnaya tekhnika. Nauchno-tekhnicheskiy sbornik, Gazorazryadnyye pribory
Sb 9	-	Radiofizicheskaya i kvantovaya elektronika. Sbornik. Tula, 1971
Sb 10	-	Radiotekhnika. Sbornik. Khar'kov, Izd-vo Khar'kovskiy universitet
Sb 11	-	Voprosy radiotekhniki. Sbornik. Tula, Izd-vo Tulskiy politekhnicheskiy institut, 1970
Sb 12	-	Ustroystva i elementy sistem avtomatizatsiya nauchnykh eksperimentov. Novosibirsk, Izd-vo nauka, 1970
Sb 13	-	Elektrolyuminestsentsiya tverdogo tela. Sbornik. Kiyev, Izd-vo naukova dumka, 1971

Sb 14	-	Elektronnaya tekhnika. Nauchno-tekhnicheskiy sbornik. Izd-vo kontrol'no-izmeritel'naya apparatura, no. 1 (22), 1971
Sb 15	-	Poluprovodnikovyye pribory v tekhnike elektrosvyazi. Sbornik statey. Izd-vo svyaz'. No. 8. 1971
Sb 16	-	Nauchnyye soobshcheniye Dagestanskogo universiteta. Fizika. Sbornik. No. 1 (5). 1970
Sb 17	-	Problemy bioniki. Khar'kov. Izd-vo Khar'kovskiy universitet, no. 6, 1971
Sb 18	-	Aerotermooptika i luchevody. Minsk, 1970
Sb 19	-	Sistemy avtomatizatsii nauchnykh eksperimentov. Sbornik. Novosibirsk, 1971
Sb 20	-	Uspekhi nauchnoy fotografii. AN SSSR. Osnovyye problemy fotograficheskoy nauki. Leningrad, Izd-vo nauka, vol. 15, 1970
Sb 21	-	Mezhdunarodnaya konferentsiya po apparature v fizike vysokikh energiy. 1970. Vol. 2. Dubna, 1971
Sb 22	-	Odesskiy elektrotekhnicheskiy institut svyazi. Sbornik trudov. No. 19, 1971
Sb 23	-	Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii. Nauchno-tekhnicheskiy informatsionnyy sbornik. Seriya 1, no. 4, 1971
Sb 24	-	Poluprovodnikovaya elektronika. Sbornik. Uzhgorod, 1971
Sb 25	-	Antenno-fidernyye i izmeritel'nyye ustroystva sverkhvysokikh chastot. Sbornik. Khar'kov, Izd-vo Khar'kovskiy institut, 1971
Sb 26	-	Omskiy politekhnicheskiy institut. Sbornik trudov. No. 2, 1970
Sb 27	-	Mekhanika. Respublikanskaya nauchno-tekhnicheskaya konferentsiya. 21st. Sbornik materialov. 1971. Vil'nyus, 1971

Sb 28	-	Radiatsionnaya fizika nemetallicheskikh kristallov. Sbornik. Kiyev, Izd-vo naukova dumka, no. 3, part 2, 1971
Sb 29	-	Ocherki fiziki i khimii nizkotemperaturnoy plazmy. Sbornik. Moskva, Izd-vo nauka, 1971
Sb 30	-	Kolebaniya i volny v plazme. Sbornik. Minsk, Izd-vo nauka i tekhnika, 1971
Sb 31	-	Kvantovaya elektronika. Sbornik. Moskva, Izd-vo Sovetskoye radio. No. 5, 1971
SovSciRev	-	Soviet Science Review
TKiT	-	Tekhnika kino i televideniya
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Tr 2	-	International Conference on the Physics and Chemistry of Semiconducting Hetero-junctions and Layer Structures. Budapest, 1970. Transactions. Vol. 2. Budapest, 1971
Tr 3	-	Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy. Trudy. No. 3 (33), 1970
Tr 4	-	Vsesoyuznyy nauchno-issledovatel'skiy proyektnokonstruktorskiy tekhnologicheskiy institut istochnikov sveta. Trudy. No. 4, 1971
Tr 5	-	Sibirskiy nauchno-issledovatel'skiy institut metrologii. Trudy. No. 9, 1971
Tr 6	-	Leningradskiy elektrotekhnicheskiy universitet. Izvestiya. No. 103, 1971
Tr 7	-	Metrologicheskiye instituty SSSR. Trudy. No. 110 (170), 1971

Tr 8	-	Fizicheskiy institut s ANEB, Bolgarskoy AN. Izvestiya. Vol. 20, 1971
Tr 9	-	Fiziko-tekhnicheskiy institut nizkikh temperatur AN SSSR. No. 12, 1971
Tr 10	-	Ul'yanovskiy politekhnicheskiy institut. Trudy. Vol. 6, no. 3, 1971
Tr 11	-	Tsentralnyy nauchno-issledovatel'skiy institut morskogo flota. Trudy. No. 136, 1971
Tr 12	-	Moskovskiy institut elektronnogo mashinostroyeniya. Trudy. No. 9, 1970
TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UFZh	-	Ukrainskiy fizicheskiy zhurnal
VAN	-	Akademiya nauk SSSR. Vestnik
VLU	-	Leningradskiy universitet. Vestnik. Fizika, khimiya
VMU	-	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya
ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	-	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhPMTF	-	Zhurnal prikladnoy mekhaniki i teoreticheskoy fiziki
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki

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