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A Documentation of  
Fusion Technology

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J. Mantel

Institut für Plasmaphysik, Garching  
October 1968

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IPP 4/56

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INSTITUT FÜR PLASMAPHYSIK  
GARCHING BEI MÜNCHEN

**I N S T I T U T F Ü R P L A S M A P H Y S I K**  
**G A R C H I N G B E I MÜNCHEN**

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Abstract

The growing spate of information in fusion technology has created the need for documentation in this field. This documentation covers specific problems which do not arise in documentations of physics or special fields such as plasma or vacuum physics. This is due to the fact that although fusion technology is a relatively narrow field the relevant information is spread over many thousands of periodicals or several million papers annually. The documentation reviews about 80 periodicals, 10 abstract journals and many reports. This paper analyzes the practice gained in Garching, compares documentation methods, and explains the documentation philosophy.

An abstract of the latest copy (September 1968) is included as an appendix.

UDC 533.9; 621.039.6; 002(05)

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1. Documentation Philosophy

2. Bibliography

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## Introduction

The amount of available scientific information is greater than ever before. This is due to the considerable increase in scientific publications. This is particularly true of English-language publications.

There are at present several libraries with more than 100,000 books, and (Library of Congress in Washington, Lenin Library in Moscow, Leningrad Library in Leningrad,

- 1      **Introduction** (Library of Congress in Washington, Lenin Library in Moscow, Leningrad Library in Leningrad, many more almost as large. The expansion rate of 1 - 2 %
- 2      **Documentation Philosophy** (British Museum in London) and
- 3      **Bibliography** (about 100,000 at the Library of Congress) presents

severe problems.

- 4      **Appendix Abstract of the September 1968 Copy of the Documentation of Engineering in Plasma Physics** (more than 50,000 books, nowadays large collections of periodicals)

4.1      **Abstract of the Publication List** is at the largest

4.2      **Abstract of the Reports List** is at the Science

Museum in London, 18,000 at the German Patent Office in

4.3      **Abstract of the Author Index**

4.4      **Abstract of the Subject Index**

4.5      **Abbreviations of Institutions**

About three million scientific and technical publications

4.6      **Abbreviations of reviewed publications**

are printed annually in about 40,000 periodicals and a

large number of reports (1). This gross of information

cannot be reviewed by an individual, but resort may be

had to such alternatives as:

a) abstracts on cards

b) abstracts in abstract journals.

Although many card systems or abstracts have been developed (2-5), they are only useful as long as the number

## 1 Introduction

The rate of growth of printed information is greater than an exponential function and thus constitutes an information explosion. This is particularly true of scientific information.

Abstracting in journals and the rapid rise of many abstract There are at present several libraries with more than 10 million volumes (Library of Congress in Washington, Lenin Library in Moscow, Leningrad Library in Leningrad, and the Library of the British Museum in London) and many more almost as large. The expansion rate of 1 - 2 % annually (500,000 at the Library of the Congress) presents awkward problems.

### Information Philosophy

Since 1950 periodicals have increased in number faster than books. Nowadays large collections of periodicals are to be found in many places. The sizes of the largest collections, approx. 20,000 periodicals at the Science Museum in London, 12,000 at the German Patent Office in Munich, and 624,000 at the Library of Congress in Washington, are significant.

For nuclear engineering the UKAEA developed the decimal About three million scientific and technical publications are printed annually in about 40,000 periodicals and a larger number of reports (1). This gross of information cannot be reviewed by an individual, but resort may be had to such alternatives as:

a) abstracts on cards

b) abstracts in abstract journals.

This is more difficult than it seems as much as an individual can review (about 30 papers daily). Unfortunately reviews Although many card systems of abstracts have been developed (2-3), they are only useful as long as the number

of relevant publications does not exceed a few thousand annually.

Availability of computers in most research and development centres has increased the wish for infor-

If the annual number of publications exceeds this level, electronically sorted punched cards can be used.

The special problems and difficulties of existing documents.

Abstracting in journals and the rapid rise of many abstract journals has resulted in poor coordination between (6) documentation centres and abstracting journals.

whenever it is more painful and troublesome for a customer.

This leads every group of information users to want its own particular style of documentation and abstract journal. A useful must be found in less than 1 hour (7).

2

Documentation Philosophy

is therefore obliged to gear his efforts much more to the

The desire to coordinate documentation work has given rise to many national documentation centres and to the International Federation for Documentation at The Hague in the Netherlands. These make use of an international universal decimal catalogue (UDC) which with some changes have been in use since the beginning of the 20th century.

For nuclear engineering the UKAEA developed the decimal code (4), which is used in many indexing services (5) in sciences and technology. They are spread over 40,000

The "science abstracts" representing these services are issued monthly in three parts (Physics, Electrical Engineering, and Control) and include more than 80,000 abstracts annually. This is about half of the numerous fields of science and technology. Electronics may be

This is more than ten times as much as an individual can review (about 20 papers daily). Unfortunately reviews as provide at most only half of the information needed in nuclear, thermonuclear, or fusion engineering. ~

100,000 annually) are covered. A field such as electronics

The availability of computers in most research and development centres has increased the wish for information retrieval systems combined with abstract journals.

The special properties and features of existing documentations (e.g. UDC) must be taken into account when starting documentation of a new field. According to Lowry (6): "An information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have information than for him not to have it." One should keep this in mind and ensure that information, to be useful must be found in less than 1 hour (7).

The "designer" of a new documentation in a special field is therefore obliged to gear his efforts much more to the wishes of the user than to his own knowledge of the conventional state of the art. Compromise in respect of form and content is then inevitable. This is especially true for documentation in the heterogenous field of fusion technology.

Of the three million scientific publications issued annually, about 2 million are concerned with the physical sciences and technology. They are spread over 40,000 journals (out of a total of 80,000 scientific journals).

One has to comb the whole field and pick up only one percent or less, and this in about half of the numerous fields of science and technology. Electronics may be taken as an example. Although electronics is vital for fusion research, the volume of the documentation becomes uneconomical and its value is strongly reduced if all publications in the field of electronics (50,000 - 100,000 annually) are covered. A field such as electronics

has therefore to be sifted for relevant topics (e.g. pulse generation).

a) b) c) d) e) f) g) h) i) j) k) l) m) n) o) p) q) r) s) t) u) v) w) x) y) z)

In the documentation described here the important topics are compiled in a thesaurus of key words. The key words are selected by information scientists and other interested scientists and engineers. Corresponding to the heterogenous nature of fusion technology and the need for restriction to a suitable selection of topics such a thesaurus of key words is also very heterogenous. But it has the advantage that it adapts itself more easily to changing structures and fields of interest than an universally accepted and confirmed catalogue, which can be revised only in long periods.

7 Hofweg, The Hague,  
Netherlands

Documentations of very similar forms, which existed previously to the one reported here, are the documentation of plasma physics and of vacuum and surface physics (8-9), done in the IPP and for instance the documentation of high energy physics done at DESY (10). This classification is carried out in the Engineering Division, headed by K. H. Schmitter.

b) e) f) Lowry: "Information Retrieval"  
The compilation and computer-aided information retrieval are done in the Theory Division, headed by Prof. A. Schlüter. Compiler is D. Hilsenbeck, who is also responsible for the documentation of plasma physics and vacuum and surface physics. "Information Retrieval" (in German)

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This work was performed under the terms of the agreement  
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ENGINEERING

IN

PLASMA PHYSICS

A DOCUMENTATION

VOLUME 2

NUMBER 2

SEPTEMBER 1968

This work was performed under the terms of the agreement  
on association between the Institut für Plasmaphysik and  
EURATOM.

8046 GARCHING BEI MÜNCHEN

In order to serve the needs of engineers and technicians in plasma physics, the Institut für Plasmaphysik, Garching b. München issues a documentation in the form of subject indexes.

The latest publications and reports in the library of the Institute are listed bibliographically, by author, and by subject. The bibliographic part comprises title, language, author and source, keywords or combinations of keywords indicating the contents are given at the end of each entry. A distinction is made between primary and secondary keywords. The primary keywords contain the thesaurus of accepted terms in the field of engineering technology in plasma physics. They appear in alphabetical order in the subject index, together with the titles of relevant works. The secondary keywords are used to describe important details, so that these together with the primary keywords and the title give a good idea of the content. They are enclosed by slashes and unlike the primary keywords are not included in the subject index. **A DOCUMENTATION**

Both the bibliographic part and the indexes are compiled with an IBM 7090. Cumulative indexes will be issued at the end of the year.

In this way it is possible to inform engineers engaged in the field about the latest publications and reports according to subject matter. The topicality of the information provided is thus guaranteed.

**VOLUME 2**                                   **NUMBER 2**

Russian literature in the original is also included. Russian names are rendered in the Latin alphabet according to the transliteration rules of the US Command, Foreign Technology Division.

**SEPTEMBER 1968**

The thesaurus was built up gradually on the basis of catalogued words and suggestions from engineers. From time to time it will be revised and brought up to date.

The language used is English. Titles in other languages are translated into English. Information retrieval by means of the IBM 7090 can be performed if necessary.

**INSTITUT FÜR PLASMAPHYSIK**

**8046 GARCHING BEI MÜNCHEN**

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我國第一屆科學會議，第一屆全國科學工作者大會，1956 年，1956 年。

在中國科學院工作。

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了。我开始觉得我应该去见见他，于是就去了他的办公室，和他谈了谈。

“你为什么想见我？”他问。

“我想和你谈谈我的工作。”我回答。

“好的，我们来谈谈。”他微笑着。

## REPORTS

“首先，我想说的是，你是一个非常有才华的员工。

“但是，最近你似乎有些懈怠，工作效率不高。

“我理解你的压力很大，但请记住，工作是最重要的。

“你需要调整一下自己的状态，重新找回工作的热情。

“同时，你需要注意的是，你的工作态度不够认真。

“你需要更加努力地工作，才能在这个行业立足。

“最后，我想说的是，你必须学会如何处理人际关系。

“你必须学会尊重他人，这样才能赢得他们的支持。

“你必须学会倾听，这样才能更好地理解他人。

“你必须学会表达，这样才能更好地展示自己。

“总的来说，你是一个很有潜力的员工，但你需要更多的努力。

“谢谢你的建议。”我微笑着。

“不客气。”他微笑着。

“再见。”我微笑着。

“再见。”他微笑着。

“再见。”我微笑着。

“再见。”他微笑着。

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NBS \* N6.8-15832, 1966,

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/COPY OF MPS/INT.CO 66-25/

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## **ABBREVIATIONS OF INSTITUTES**

DAG-A  
DAG-B  
DAG-C  
DAG-D  
DAG-E

ABBREVIATIONS FOR INSTITUTES

ADSS-WRE	AUSTRALIAN DEFENSE SCI.SERV.,WEAPONS RES.ESTABL.,SALISBURY, S.AUSTRALIA
AE	AKTIEBOLAGET ATOMENERGI,SWEDEN
AEC	ATOMIC ENERGY COMISSION,WASHINGTON,D.C.
AECA	ATOMIC ENERGY OF CANADA,CHALK RIVER,ONTARIO
AECU	ATOMIC ENERGY COMMISSION OF THE USSR
AERE	ATOMIC ENERGY RESEARCH ESTABLISHMENT,HARWELL,BERKSHIRE
AEDC	ARNOLD ENGINEERING DEVELOPM.CENTER,AFSC,ARNOLD AF STATION, TENNESSEE
AERL	AVCO RESEARCH LABORATORIES,A DIV.OF AVCO CORP., EVERETT,MASS.
AFAPL	AF-SYSTEMS-COMM.,AERO-PROPELLION LAB.,WRIGHT-PATTERSON-AF-BASE,OHIO
AFCRC	AIR FORCE CAMBRIDGE RESEARCH CENTER,MASS.
AFCRRL	AIR FORCE CAMBRIDGE RESEARCH LABORATORIES,BEDFORT,MASS.
AF EOAR GRANT	USAF UNDER GRANT,EUROPE,OFF.OF AEROSPACE RESEARCH
AFOSR	AF OFFICE OF SCIENTIFIC RESEARCH, WAHINGTON,D.C.
AFSC-SEG	AF-SYSTEMS COMM.,SYSTEMS ENG.GROUP(RTD),WRIGHT-PATTERSON-AF-BASE,OHIO
AFSWC	AF SPECIAL WEAPONS RESEARCH LAB.,KIRTLAND AFB, N.MEXICO
AFWL	AIR FORCE WEAPONS LAB.,KIRTLAND AF BASE, N.MEXICO
AI	ATOMICS INTERNATIONAL,A DIV.OF NORTH-AM.AVIAT.CORP.,CANOGA PARK,CALIF.
AIAA-PAPERS	AM.INST.OF AERONAUTICS AND ASTRONAUTICS, CONF.PAPERS, NEW YORK
ANL	ARGONNE NATIONAL LABORATORY,LEMONT,ILL.
APL/JHU	JOHN HOPKINS UNIVERSITY,APPL.PHYS.LAB.,SILVER SPRINGS,MARYLAND
ARL (AF)	AEROSPACE RESEARCH LAB., WRIGHT PATTERSON AF BASE, OHIO
ARL (RWD)	AERONAUTICAL RESEARCH LABORATORY, RAMO-WOOLDRIDGE CORP.,LOS ANGELES,CALIF.
ASC	AEROSPACE CORP., EL SEGUNDO, CALIF.
ASTIA	ARMED SERVICES TECHNICAL INFORMATION AGENCY, ARLINGTON, VA.
ATD	AEROSPACE INFORMATION DIVISION,LIBRARY OF CONGRESS
ATS	ASSOCIATED TECHNICAL SERVICE,EAST ORANGE,N.JERSEY
AWRE	ATOMIC WEAPON RES.ESTABL.,ALDERMASTON,BERKSHIRE,G.B.

B

BBCZF	BBC-HEIDELBERG,GERMANY,ZENTRALES FORSCHUNGSLABOR
BBG	BERLINER BUNSEN GESELLSCHAFT FUER PHYSIKALISCHE CHEMIEE, BERLIN
BWMF	BUNDESMINISTERIUM F.WISSENSCHAFT U.FORSCHUNG, BONN, GERMANY
BNL	BROOKSHAVEN NATIONAL LABORATORY,UPTON,N.Y.
BNWL	BATELLE-NORTHWEST, BATELLE MEMORIAL INSTITUTE, RICHLAND, WASH.
BRGAL	BOEING SCIENTIFIC RES. LAB.,GEO-ASTROPHYSICS LAB., SEATTLE, WASH.
BRL	US ARMY MATERIALS COMMAND,BALLISTIC RES.LAB.,ABERDEEN PROVING GROUND,MA.
BRLP	BOEING RESEARCH LAB.,PL.PHYSICS,SEATTLE
BTS	BELL TELEPHONE SYSTEM
BUN-ENG	BROWN UNIVERSITY,DIV.OF ENGINEERING, PROVIDENCE

C

CAL	CORNELL AERONAUTICAL LAB.,INC.,BUFFALO
C.E.A.	COMMISSARIAT A L'ENERGIE ATOMIQUE, FRANCE
CEAF	GROUPE DE RECHERCHE DE L'ASSOCIATION EURATOM,FONTENAY-AUX-ROSES
CEAS	CENTRE D'ETUDE NUCLEAIRE,SACLEY,EURATOM
CERN	ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE ,GENEVE
CHUG	CHALMERS UNIV.OF TECHNOLOGY,RES.LAB.OF ELECTRONICS,GOTHENBURG,SWEDEN
CIT	CALIFORNIAN INSTITUTE OF TECHNOLOGY,PASADENA,CALIF.
CITC	CASE INSTITUTE OF TECHNOLOGY,UNIVERSITY CIRCLE,CLEVELAND,OHIO
CLB	US CUSTOMS LAB.,BALTIMORE,MARYLAND
CNEN	COMITATO NATIONALE ENERGIA NUCLEARE, ROMA
CLM	CULHAM LABORATORY,CULHAM,ABINGDON,BERKSHIRE,G.B.
COA	THE COLLEGE OF AERONAUTICS,CRANFIELD
CPD	AUSTRAL.DEF.SCIENTIFIC SERVICE,WEAPONS RES.ESTABL.,SALISBURY,S.AUSTRALIA
CTO	CULHAM LABORATORY,CULHAM TRANSLATION OFFICE,CULHAM,ABINGDON,BERKSHIRE
CUA-SSAP	THE CATHOLIC UNIV.OF AMERICA,DEP.OF SPACE SCI.AND APPL.PHYSICS,WASH.
CU (PNPL)	COLUMBIA UNIVERSITY IN THE CITY OF N.Y.,PLASMA PHYSICS LABORATORY
CWM-PPL	THE COLLEGE OF WILLIAM AND MARY,WILLIAMSBURG,VIRG.,PLASMA PHYS.LAB.

D

UNIVERSITY OF ILLINOIS,ELECTRICAL ENGINEERING DIVISION

DAC-AD DOUGLAS AIRCRAFT CORPORATION, AIRCRAFT DIV., LONG BEACH, CALIF.  
DAC-MS DOUGLAS AIRCRAFT COMPANY, MISSILE AND SPACE DIV., S. MONICA, CALIF.  
DCRF THE DOW CHEMICAL COMPANY, ROCKY FLATS DIVISION  
DGGW-EMR UNIVERSITY LONDON, IMPERIAL COLLEGE  
DLR DEUTSCHE LUFT-UND RAUMFAHRT FORSCHUNGSBER., ED. BY DVL AND ZLD, MUNICH  
DOFL US ARMY MATERIAL COMMAND, DIAMOND LAB., WASHINGTON, D.C.  
DP-SRL DUPONT, SAVANNAH RIVER LAB., AIKEN, S. CAROLINA  
DRI UNIVERSITY OF DENNEVER  
DTMB DAVID TAYLOR MODEL BASIN, DEP. OF THE NAVY, CARDEROCK, MD.  
DTSCH. PAT. AMT DEUTSCHES BUNDES PATENTAMT, MUENCHEN, GERMANY

E

EFNIS UNIVERSITY OF CHICAGO, ENRICO FERMI INSTITUTE OF TECHNOLOGY  
ELP ELCON LAB. INC., PEABODY, MASS.  
EMI ERNST-MACH-INSTITUT, FREIBURG, GERMANY  
ERM-LPP ECOLE ROYALE MILITAIRE BRUXELLES, LAB. DE PHYS. DES PLASMAS, BELGIUM  
ESRO EUROPEAN SPACE RESEARCH ORGANIZATION, PARIS, FRANCE  
ESSEX-CHEM DEPARTM. OF CHEMISTRY, UNIVERSITY OF ESSEX, COLCHESTER, G.B.  
EUR EUROPEAN ATOMIC ENERGY COMMUNITY  
EUR-CEA EUR, COMMISSARIAT A L'ENERGIE ATOMIQUE

F

FOA FOERSARETS FORSKININGSANSTALT, STOCKHOLM, SWEDEN  
FEI FIZIKA ENERGETICHESKII INSTITUT, USSR  
FOM FUNDAMENTEEL ONDERZOEK DER MATERIE-INST. F. PLASMAPHYS., RIJNHUIZEN  
FOM-IAMPA FOM-INSTITUT F. ATOMIC AND MOLECULAR PHYSICS, AMSTERDAM, NETHERLANDS  
FRM TECHN. HOCHSCHULE MUENCHEN, PHYSIKALISCHE LABORATORIEN, GERMANY  
FTD AF SYSTEMS COMMAND, FOREIGN TECHNOLOGY DIV., WRIGHT PATTERSON AFB, OHIO

G KYO KOGAKU INSTITUT, TOKYO, JAPAN  
KISTE UNIVERSITY, DEPT. OF ELECTRICAL ENGR., FACULTY OF ENGR., KYOTO, JAPAN

GA GENERAL ATOMIC, DIVISION OF GENERAL DYNAMICS, SAN DIEGO, CALIF.  
GCA GCA CORPORATION, TECHNOLOGY DIVISION, BEDFORD, MASS.  
GDC GENERAL DYNAMICS, CONVAIR, SAN DIEGO, CALIF.  
GD-FW GENERAL DYNAMICS, FORT WORTH, TEX.  
GE-ZR GENERAL ELECTRIC RESEARCH LABORATORY, SCHENECTADY, N. JERSEY  
GEMS GENERAL ELECTRIC, MISSILE AND SPACE DIV., SPACE SCIENCES LAB., PHILADELPHIA  
GGA GULF GENERAL ATOMIC, INC., SAN DIEGO, CALIF.  
GIT GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GEORGIA  
GMRL GENERAL MOTORS GROUP, RES. LAB., DETROIT, ILL.  
GM-TR SPACE TECHNOLOGY LABORATORIES INC., PHYS. RES. LAB., L. ANGELES, CALIF.  
GRDM GRUMAN RESEARCH DEPARTMENT MEMORANDUM

H

HDRL YEH HARRY DIAMOND LABORATORIES, ARMY MATERIAL COMM., WASHINGTON, D.C.  
HEB HEBREW UNIVERSITY, JERUSALEM, ISRAEL  
HMI HAHN-MEITNER INST. F. KERNFORSCHUNG, BERLIN  
HRL HUGHES RES. LAB., MALIBU, CLF.  
HUXATH HARVARD UNIVERSITY, CAMBRIDGE, MASS.

I

IA ISRAEL ATOMIC ENERGY COMMISSION, TEL AVIV  
IAEA INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA  
I AN SSSR INSTITUTE OF THE ACAD. OF SCI. OF THE USSR  
IBJW INSTITUTE BODAN JADROWICZ, WARSHAW, POLAND  
IC INTERNATIONAL CENTER FOR THEORETICAL PHYSICS, TRIESTE, IAEA  
IDANG INSTITUTE FOR DEFENCE ANALYSIS  
IEEJ INSTITUTE OF ELECTRICAL ENGINEERS OF JAPAN  
IFARC INSTITUTE FRANCO-ALLEMAND DE RECHERCHES, ST. LOUIS  
IFUM IHT INSTITUTE FOR HIGH TEMPERATURE REACTORS, DEUTSCHE REACTOR-FORSCHUNG  
TECHN. HOCHSCH. STUTTGART, DEPT. OF PHYSICS, STUTTGART, GERMANY  
ILL UNIVERSITY OF ILLINOIS, ELECTRICAL ENGINEERING DIVISION

ILL-AL UNIV.OF ILLINOIS,ANTENNA LABORATORY, URBANA,ILL.  
ILL-R UNIV.OF ILLINOIS,COORDINATED SCIENCE LAB.,URBANA  
IMJ INST.F.MAGNETOHYDRODYNAMIK,JENA  
INDEC UNIV.OF PENNSYLVANIA,INST.F.DIRECT ENERGY CONVERSION, PHILADELPHIA,PENN.  
IPF INST.F.PLASMAFORSCHUNG DER TH STUTTGART (FORMERLY IHT)  
IPP INST.F.PLASMAPHYSIK,GARCHING B. MUENCHEN  
IPP (COPY) HARD-TO-FIND LITTERATURE, COPIED BY THE IPP (SEE ALSO LIT)  
IPPCZ INST.OF PLASMAPHYSICS,THE AKADEMIE OF SCIENCES OF THE CSSR  
IPPJ INST.OF PLASMA PHYSICS,NAGOYA UNIVERSITY,NAGOYA,JAPAN  
IPPNO INSTITUT OF PLASMA PHYSICS, NOVOROSSIJK (SEE ALSO IYAFSO)  
IRLC LABORATORY FOR INSULATION RESEARCH,CAMBRIDGE  
IRTB INDUSTRIAL RESEARCH INSTITUTE FOR TELECOMMUNICATION,BUDAPEST  
IS IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY,INST.OF ATOMIC RES.,AMES  
ITAB THE INSTITUTE OF THEORETICAL ASTROPHYSICS,BLINDERN,OSLO  
ITEF INST.OF THEOR. AND EXPERIM. PHYSICS OF THE USSR ATOMIC ENERGY COM.  
IYAFSO INSTITUT YADERNOI FIZIKI SIBIRSKOGO OTDELENIYA AN SSSR, NOVOSIBIRSK

J

JAERI JAPAN ATOMIC ENERGY RESEARCH INSTITUTE  
JILA JOINT INST.FOR LABORATORY ASTROPHYSICS,UNIV.OF COLORADO,BOULDER,COL.  
JPL JET PROPULSION LAB.,PASADENA,CALIF.  
JPRS JOINT PUBLICATIONS RESEARCH SERVICE,CITY OF NEW YORK  
JUEL GES.F.KERNFORSCHUNG,INST.F.PL.PHYSIK,JUELICH,GERMANY

K

KFA KERNFORSCHUNGSANLAGE JUELICH DES LANDES NORDRHEIN-WESTFALEN,E.V.  
KFK GESELLSCHAFT FUER KERNFORSCHUNG M.B.H., KARLSRUHE  
KIM KURCHATOV INSTITUTE FOR ATOMIC ENERGY,MOSCOW  
KTHH KUNGL.TEKN.HOEGSKOLANS HANDLINGAR,SWEDEN  
KYU KYOTO UNIVERSITY,DEPM.OF ELECTRICAL ENG.,FACULTY OF ENG.,KYOTO,JAPAN

L

LA LOS ALAMOS SCIENTIFIC LABORATORY,N.MEXICO  
LAMS LOS ALAMOS SCIENTIFIC LABORATORY,N.MEXICO  
LB DOUGLAS AIRCRAFT CORPORATION, LONG BEACH,CALIF.  
LCC LOCKHEED CALIFORNIA CORPORATION, BURBANK, CALIF.  
LGI LABORATORIO GAS IONIZATI,FRASCATI-ROMA  
LIM LEBEDEV INSTITUTE MOSCOW  
LIT HARD-TO-FIND LITERATURE, THESES, CONFERENCE PAPERS (FORMERLY IPP(COPY))  
LLM LINCOLN LAB.,MASSACHUSSETS  
LNF LABORATORI NAZIONALI DE FRASCATI DEL CNEN, FRASCATI, ROMA, ITALY  
LRK LABORATOIRE DE RECHERCHES A KRAAINEN, BRUXELLES, BELGIUM  
LRL LAWRENCE RADIATION LAB., UNIVERSITY OF CALIFORNIA, LIVERMORE, CALIF.  
LRP INSTITUT FUER PLASMAPHYSIK,LOUSANNE  
LYCEN UNIVERSITE DE LYON,INST.DE PHYSIQUE NUCLEAIRE

M

MATT PROJECT MATTERHORN,PRINCETON UNIVERSITY,PRINCETON,N.JERSEY  
MF NEW YORK UNIV.,COURANT INST.OF MATHEM.SCI.,MAGNETO-FLUID DYNAMICS DIV.  
MIAPH UNIV.OF MIAMI, DEP.OF PHYSICS, CORAL GABLES, FLORIDA  
MIT MASSACHUSETTS INSTITUTE OF TECHNOLOGY,CAMBRIDGE,MASS.  
MIT-CSR MIT, CENTER FOR SPACE RESEARCH  
MIT-FML MIT,FLUID MECHANICS LAB., DEP.OF MECHANICAL ENGINEERING  
MIT-LIR MIT, LABORATORY FOR INSULATION RESEARCH  
MIT-RLE MIT, RES.LAB.OF ELECTRONICS, CAMBRIDGE, MASS.  
MLM MOUND LABORATORY,MIAMISBURG,OHIO  
MND MARTIN,BALTIMORE DIVISION,BALTIMORE,MARYLAND  
MPI MAX-PLANCK-INSTITUT FUER PHYSIK UND ASTROPHYSIK,MUENCHEN  
MRC US ARMY,MATHEMATICAL RESEARCH CENTER  
MSUCP MICHIGAN STATE UNIVERSITY,DEP.OF PHYSICS,EAST LANSING  
MURA MIDWESTERN UNIVERSITY RESEARCH ASS.,MADISON,WISC.

N

SANDIA CORP,TECHNICAL MEMORANDUM,ALBUQUERQUE,NM  
STANFORD ELECTRONIC LABORATORY,PL.PHYSICS LAB,STANFORD,CA,USA

NACA LEWIS FLIGHT RESEARCH CENTER, CLEVELAND, OHIO  
NAGOYA NAGOYA UNIV., DEP.OF PHYSICS, CHIKUSA NAGOYA JAPAN  
NASA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. WASHINGTON, D.C.  
NBS NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C.  
NCAR NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, COLO.  
NEIC NUCLEAR ENERGY INFORMATION CENTER, POLAND  
NEU NORTH-EASTERN UNIVERSITY  
NIT NORVEGIAN INST.TECHNOL., DIV.APPL.ELECTR., DEP.EL.ENG., TRONDHEIM, NORWAY  
NIT-EIP NORVEGIAN INST.OF TECHNOLOGY, ELECTRON AND ION PHYSICS RESEARCH GROUP  
NIT-GDL GAS DISCHARGE LABORATORY, THE INST.OF TECHNOLOGY, TRONDHEIM, NORWAY  
NMSU NEW MEXICO STATE UNIVERSITY  
NOLC NAVAL ORDNANCE LABORATORY, CORONA, CALIF.  
NRC NATIONAL RESEARCH COUNCIL OF CANADA  
NRL NAVAL RESEARCH LABORATORY, WASHINGTON, D.C.  
NUMEC NUMEC ENERGY CONVERSION DIVISION  
NWU-GDL NORTHWESTERN UNIVERSITY, GAS DYNAMICS LABORATORY, EVANSTON, ILL.  
NYU NEW YORK UNIVERSITY, N.Y.  
NWU NORTHWESTERN UNIVERSITY, TECHNICAL INST., EVANSTON, ILL.

O

OIYAL JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA  
ONERA OFF.NAT.D'ETUDES ET DE RECHERCHES AEROSP., CHATILLON SOUS BAGNEUX, SEINE  
ONR OFFICE OF NAVAL RESEARCH, WASHINGTON, D.C.  
ORNL OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.  
ORTIB TECHNICAL INFORMATION BRANCH, OAK RIDGE TENN.  
OSB OSRAM STUDIENGESELLSCHAFT, BERLIN  
OSU OHIO STATE UNIVERSITY, COLUMBUS, OHIO  
OSU-AL THE OHIO STATE UNIVERSITY, THE ANTENNA LABORATORY, COLUMBIA, OHIO  
OTS OFFICE OF TECHNICAL SERVICES, WASHINGTON, D.C.  
OUCL CLARENDON LAB., OXFORD UNIVERSITY, OXFORD, ENGLAND

P

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PIBAL-MRI POLYTECHNICAL INSTITUTE OF BROOKLYN, MICROWAVE RESEARCH INSTITUTE  
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R

R-PSS UNIV. OF CALIF., DEP.OF PLANETARY AND SPACE SCIENCE, CALIF.  
UPR-PU DEPARTM. OF PHYSICS, UNIVERSITY OF CALIFORNIA LOS ANGELES, PHYSICS, LOS ANGELES  
RADC-TR ROME AIR DEVELOPMENT CENTER, GRIFFITH AFB, N.Y.  
RAE ROYAL AIRCRAFT RESEARCH ESTABLISHMENT, FARNBOROUGH HANTS, G.B.  
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RITS ROYAL INSTITUTE OF TECHNOLOGY, STOCKHOLM  
RISOE DANISH ATOMIC ENERGY COMM.RESEARCH ESTABLISHMENT RISOE, DANMARK  
RM THE RAND CORPORATION, S.MONICA, CALIF.  
RPI-PDL RENSSELAER POLYTECHNIC INSTITUTE, PLASMA DYNAMICS LAB., TROY, NEW YORK  
RPI-PRL RENSSELAER POLYTECHNIC INSTITUTE, PLASMA PHYSICS LAB., TROY, NEW YORK

S

SAMP FACULTE DE SCIENCES, PARIS, SECTION ASTROPHYSIQUE MEUDON, PARIS  
SC SANDIA LABORATORIES ALBUQUERQUE, NEW MEXICO AND LIVERMORE, CALIF.  
SCTM SANDIA CORP. TECHNICAL MEMORANDUM, ALBUQUERQUE, N.M.  
SEL SEL STANFORD ELECTRONICS LABORATORY, PL.PHYSICS LAB., STANFORD UNIV., CALIF.

SFE SIEMENS FORSCHUNGSLABORATORIEN, ERLANGEN, GERMANY  
SIGO SERVICE DE PHYSIQUE APPL. SECTION D'IONIQUE GENERALE, OIF-SUR-YVETTE, FR.  
SINP SAHA INSTITUTE OF NUCLEAR PHYSICS, CALCUTTA, INDIA  
SIT STEVENS INSTITUTE OF TECHNOLOGY, CASTLE POINT STATION, HOBOKEN, N. JERSEY  
SM UNIVERSITAET BONN, PHYSIKALISCHES INSTITUT  
SPO SACRAMENTO PEAK OBSERVATORY, SUNSPOT, N. MEXICO  
SP-PHYS. INC. SPECTRA PHYSICS INC., MOUNTAIN VIEW, COL.  
SPPO SERVICE DE PHYS. DES PLASMAS, FAC. DE SCIENCES, UNIV. DE PARIS, ORSAY  
SRRC SPERRY RAND RESEARCH CENTER, SUDBURY, MASS.  
SRI STANFORD RESEARCH INSTITUTE, MENLO PARK, CALIF.  
SRL FRANK J. SEILER RESEARCH LAB., USAF ACADEMY COLORADO  
SSD-TDR AEROSPACE CORPORATION, PHYSICAL RES. LAB., EL SEGUNDO, CALIF.  
SSL SPACE SCIENCE LABORATORY LITTON SYSTEMS INC., BEVERLY HILL, CALIF.  
SUAA STANFORD UNIV., DEP. OF AERONAUTICS AND ASTRONAUTICS, STANFORD, CALIF.  
SUI UNIV. OF IOWA, DEP. OF PHYSICS AND ASTRONOMY, IOWA CITY  
SU-IPR STANFORD UNIVERSITY, INST. FOR PLASMA PHYSICS RESEARCH, CALIF.  
SU-ML STANFORD UNIVERSITY, W. W. HANSEN LAB., MICROWAVE LAB., STANFORD, CALIF.  
SU-NTL STANFORD UNIVERSITY, NUCLEAR TECHNOLOGY LAB. STANFORD, CALIF.  
SWCAS SOUTH WEST CENTER FOR ADVANCED STUDIES, DALLAS, TEX.  
SWRI SOUTH WEST RESEARCH INSTITUTE, SAN ANTONIO, TEXAS  
SWRI VANCOUVER  
UNIV. OF VIRGINIA, DEPT. OF AEROSPACE ENG., CHARLOTTESVILLE.

T

TAE TECHNION-ISRAEL, INST. OF TECHNOL., DEP. OF THEOR. ENG., HAIFA-ISRAEL  
THAA TECHN. UNIVERSITAET AACHEN, 1. PHYSIKALISCHES INST., AACHEN, GERMANY  
THB TECHN. HOCHSCHULE BRAUNSCHWEIG, GERMANY  
THH TECHN. HOCHSCHULE HANNOVER, GERMANY  
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TNO CENTRAAL LABORATORIUM, DELFT, NETHERLANDS  
TPE TUFTS COLLEGE RESEARCH LABORATORY OF PHYSICAL ELECTRONICS, BEDFORT, MASS.  
TRDFH TECHNICAL RESEARCH AND DEVELOPMENT FOUNDATION, HAIFA, ISRAEL  
TUPP TEMPLE UNIVERSITY, DEPM. OF PHYSICS, PHILADELPHIA, PA.

U

UARI UNIVERSITY OF ALABAMA, RESEARCH INST., HUNTSVILLE, ALABAMA  
UACRL UNITED AIRCRAFT RESEARCH LAB., UNITED AIRCRAFT CORP., EAST HARTFORD, CONN.  
UBR UNIVERSITY OF BUCAREST, ROMANIA  
UCER UNIV. OF CALIFORNIA, INST. F. ENGINEERING RES., BERKELEY  
UC-IGP INST. OF GEOPHYSICS AND PLANETARY PHYSICS, UNIV. OF CALIFORNIA, LOS ANGELES  
UCOL COLORADO UNIVERSITY, BOULDER, COLORADO  
UCL-PH UNIVERSITY COLLEGE LONDON, DEP. OF PHYSICS, G.B.  
UC-PSS UNIV. OF CALIF., DEP. OF PLANETARY AND SPACE SCIENCE, CALIF.  
UCPLPG DEPARTM. OF PHYSICS, UNIVERSITY OF CALIFORNIA LOS ANGELES, PL. PHYSICS GROUP  
UCRL UNIV. OF CALIFORNIA, RADIATION LABORATORY, BERKELEY, CALIF., LIVERMORE, CALIF.  
UCSD-IRA INST. F. RADIATION PHYSICS AND AERODYNAMICS, UNIV. OF CALIF., LA JOLLA, CALIF.  
UCSSL UNIV. OF CALIF., SPACE SCIENCE LAB., BERKELEY, CALIF.  
UIOWA-AL UNIV. OF IOWA, DEP. OF EL. ENG., ANTENNA LAB., URBANA, ILL.  
UIOWA-PHA UNIVERSITY OF IOWA, DPTM. OF PHYSICS AND ASTRONOMY, IOWA CITY, IOWA  
UKAEA UNITED KINGDOM ATOMIC ENERGY AUTHORITY  
UKAEA-HL UKAEA, RES. GROUP, ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL  
UKI UNIVERSITAET KIEL, GERMANY  
ULB UNIVERSITE LIBRE DE BRUXELLES  
ULIE (MM) UNIVERSITE DE LIEGE, MECHANIQUE, MATHEMATIQUE  
UMAEC UNIV. OF MICHIGAN, ANN ARBOR, MICHIGAN  
UMAEC-RL THE UNIV. OF MICHIGAN, COLLEGE OF ENG., RADIATION LAB., ANN ARBOR, MICHIGAN  
UMI UNIVERSITY OF MIAMI, DEP. OF PHYSICS, MIAMI, FLORIDA  
UMI-CTS UNIVERSITY OF MIAMI, CENTER FOR THEORETICAL STUDIES, CORAL GABLES, FLOR.  
UMMI UNIVERSITY MICROFILMS INC., MICHIGAN  
UMN UNIVERSITAET MUENCHEN, GERMANY  
UMNE UNIVERSITY OF MARYLAND, COLLEGE PARK  
UMNS/ UNIVERSITY OF MINNESOTA, DEP. OF PHYS., MINNEAPOLIS, MINN.  
UNBELFAST QUEEN'S UNIVERSITY OF BELFAST, NORTHERN IRELAND  
UNBER UNIVERS. OF BERGEN, DEP. OF APPL. MATHEMATICS, BERGEN, NORWAY

UNEV DESERT RESEARCH INSTITUTE, UNIV.OF NEVADA  
UNINNS UNIV.INNSBRUCK, INST.FUER THEORETISCHE PHYSIK, AUSTRIA  
UNION CARBIDE ND UNION CARBIDE CORP.,NUCLEAR DIV.,Y-12 PLANT,OAK RIDGE,TENN.  
UNIVOX-ENG UNIV.OF OXFORD, DEP.OF ENGINEERING SCI.,ENGINEERING LAB.OXFORD, G.B.  
UNMOLP UNIVERSITE DE MONTREAL,DEP.DE PHYS.,LAB.DE PL.PHYS.  
UNPR UNIVERSITY OF PRINCETON,PRINCETON,N.JERSEY.,PLASMA PHYSICS LABORATORY  
UNSY UNIV.OF SIDNEY,SCHOOL OF PHYSICS,SIDNEY,AUSTRALIA  
UNUP UNIVERSITAET UPPSALA,SWEDEN  
UPA-LPP UNIV.DE PARIS,FACULTE DE SCIENCES,LAB.DE PHYS.DE PLASMAS,ORSAY,FRANCE  
UR-MAS THE UNIV.OF ROCHESTER,DEP.MECHANICAL AND AEROSP.SCI.,ROCHESTER,N.Y.  
USAFIT AF INST.OF TECHN.,SCHOOL OF ENGINEERING,WRIGHT-PATTERSON AF BASE,OHIO  
USAMIC-PSL US ARMY MISSILE COMMAND,PHYSICS SCI.LAB.,REDSTONE ARSENAL,ALABAMA  
USC-ESL UNIVERS.OF SOUTHERN CALIFORNIA,SCHOOL OF ENG.,ELECTRONICS SCIENCE LAB.  
US PAT.OFFICE UNITED STATES PATENT OFFICE, WASHINGTON, D.C.  
UTEX-PPL THE UNIV.OF TEXAS, PLASMA PHYSICS LABORATORY, AUSTIN, TEXAS  
UTIA TORONTO UNIVERSITY,INSTITUTE OF AEROPHYSICS,TORONTO, CANADA  
UTEX-EERL UNIV.OF TEXAS,EL.ENGINEERING RES.LAB., AUSTIN, TEXAS  
UTEX-PDRL PLASMA DYNAMICS RESEARCH LAB., AUSTIN  
UTO UNIV.OF TOKYO, DEP.OF PHYSICS, JAPAN  
UVA UNIVERSITY OF BRITISH COLUMBIA,DEP.OF PHYSICS, VANCOUVER  
UVAR UNIV.OF VIRGINIA,DEP.OF AEROSPACE ENG.,CHARLOTTEVILLE

V

VR VACUUM PRODUCTS DIVISION, VACUUM ASSOCIATES PALO ALTO, CALIF.

W

WEET WESTINGHOUSE ELECTRICS CORP.,NEW YORK  
WERL WESTINGHOUSE RESEARCH LABORATORY,PITTSBURGH,PA.  
WIS UNIVERSITY OF WISCONSIN,DEP.OF PHYS.,MADISON,WISC.

Y

YALE YALE UNIVERSITY, NEW HAVEN,

1 375 LINES OUTPUT.

## ABBREVIATIONS OF REVIEWED PUBLICATIONS

## ABBREVIATIONS OF REVIEWED PUBLICATIONS

A

ADDAB

ANALOG INFORMATIONSTHEORETISCHE FORSCHUNG

APC

ARCHIV FÜR PHYSIK

APPLIED OPTICS

APPLIED OPTICS

APPLIED PHYSICS

APPLIED PHYSICS

APPLIED PHYSICS LETTERS

APPLIED PHYSICS LETTERS

ARCHITECTURE

ARCHITEKTUR DER ELEKTRONISCHEN UBERTRAGUNG

ATM

ARCHIV FÜR TECHNISCHES MESSEN

B

BATTELINE

BATTELINE TECHNICAL REPORT

BBC NEWSLETTER

BBC MITTEILUNGEN

BBC NEWSLETTER ON COMPUTER

BBC NACHRICHTEN

BELL SYSTEM

BELL SYSTEM TECHNICAL JOURNAL

BELL SYSTEM PHYSICS

BRITISH JOURNAL OF APPLIED PHYSICS

C

CONTINUOUS PHYSICS

CONTEMPORARY PHYSICS

CONTROL

CONTROL

CRYOGENICS

CRYOGENICS

CURRENT PAPERS

CURRENT PAPERS

D

EDN

ELECTRICAL DESIGN NEWS

EE&A ABSTRACTS

ELECTRONICS ABSTRACTS JOURNAL

ELECTRONIC

ELECTRONIC ENGINEERING

ELECTRONICS

ELECTRONICS LETTERS

ELECTRONICS

## ABBREVIATIONS FOR REVIEWED PUBLICATIONS

A	IEEE T. IND.	IEEE TRANSACTIONS ON INDUSTRY AND GENERAL APPLIC.
	IEEE T. MAG.	IEEE TRANSACTIONS ON MAGNETICS
	IEEE T. MTT	IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES
	IEEE T. N.S.	IEEE TRANSACTIONS ON NUCLEAR SCIENCE
	IEEE T. PAS	IEEE TRANSACTIONS ON POWER APPARATUS AND SYSTEMS
	ENSYN.TECHN.	INSTITUTE OF ENGINEERING TECHNOLOGY
	AED-AB	AED-INFORMATIONEN ZUR KERNFORSCHUNG
	INTL. KFOSCHAU	INTERNATIONAL EXHIBITION
	AFE	ARCHIV FUER ELEKTROTECHNIK
	APPL.OPTICS	APPLIED OPTICS
	APPL.PHYS.LETT.	APPLIED PHYSICS LETTERS
	ARCH.EL.UEBERT.	ARCHIV DER ELEKTRISCHEN UEBERTRAGUNG
	ATM	ARCHIV FUER TECHNISCHES MESSEN
B	JOURNAL CER. SOC.	JOURNAL OF THE AMERICAN CERAMIC SOCIETY
	JAP. J. APPL. PHYS.	JAPANESE JOURNAL OF APPLIED PHYSICS
	J. APPL. PHYS.	JOURNAL OF APPLIED PHYSICS
	JETZLETTERS	JETZLETTERS
	J.R. BATTELLE	JOURNAL OF THE BATTELLE LABS. (A)
	BBC MITT.	BBC-MITTEILUNGEN
	BBC NACHRICHTEN	BBC NACHRICHTEN
	BEITR.PL.PHYSIK	BEITRAEGE AUS DER PLASMAPHYSIK
	BELL SYST.T.J.	BELL SYSTEM TECHNICAL JOURNAL
	B.J.APPL.PHYS.	BRITISH JOURNAL OF APPLIED PHYSICS
C		
	LASER ABSTRACTS	LASER ABSTRACTS
	CONTEMP.PHYS.	CONTEMPORARY PHYSICS
	CONTROL	CONTROL
	CRYOGENICS	CRYOGENICS
	CURRENT PAPERS	CURRENT PAPERS
E	NICKELBERICHTE	NICKELBERICHTE
	NFZ	NACHRICHTENTECHNISCHE ZEITSCHRIFT
	NUCLEAR SCI. ABSTR.	NUCLEAR SCIENCE ABSTRACTS
	EDN	ELECTRICAL DESIGN NEWS
	EL.ABSTR.J.	ELECTRONICS ABSTRACTS JOURNAL
	ELECTR.ENG.	ELECTRONIC ENGINEERING
	ELECTR.LETT.	ELECTRONICS LETTERS
	ELECTRONICS	ELECTRONICS
	ELEKTRONIK	ELEKTRONIK
	EL.RUNDSCHAU	INTERNATIONALE ELEKTRONISCHE RUNDSCHAU
	ET	ELEKTROTECHNIK
	PHILOS. MIC. N.	PHILOSOPHY AND MICROWAVE NOTES
	ETZ(A)	ELEKTROTECHNISCHE ZEITSCHRIFT (A)
	PHILOS. R.	PHILOSOPHY AND READING
	ETZ(B)	ELEKTROTECHNISCHE ZEITSCHRIFT (B)
	EXP.TECH.D.PHYS.	EXPERIMENTELLE TECHNIK DER PHYSIK
	PROC.IEE	PROCEEDINGS OF THE IEE
	PROC.IEEE	PROCEEDINGS OF THE IEEE
	PROGR.MAT.SCI.	PROGRESS IN MATERIALS SCIENCE
F	FREQUENZ	DIE FREQUENZ
	FUNKSCHAU	FUNKSCHAU
GALVANOTECHNIK	GALVANOTECHNIK	
RCA REVIEW	RADIO AND ELECTRONIC ENGINEER	
REENG.EL.PHYS.	RADIO ENGINEERING AND ELECTRONIC PHYSICS	
REV.SCI.INSTRUM.	REVIEWS OF SCIENTIFIC INSTRUMENTS	
HEWL.-PCK.J.	HEWLETT-PACKARD JOURNAL	
RTP	REGELUNGSTECHNIK	
I		
S	IEEE J.QE	IEEE JOURNAL OF QUANTUM ELECTRONICS
	IEEE J.SC	IEEE JOURNAL OF SOLID-STATE CIRCUITS
	IEEE T.C	IEEE TRANSACTIONS ON COMPUTERS
	IEEE T.COM	IEEE TRANSACTIONS ON COMMUNICATION TECHNOLOGY
	IEEE T.CT	IEEE TRANSACTIONS ON CIRCUIT THEORY
	IEEE T.EER	IEEE TRANSACTIONS ON ELECTRONIC DEVICES
	SIEMENS RUNDSC.	SIEMENS RUNDSCHE

IEEE T.IGA	IEEE TRANSACTIONS ON INDUSTRY AND GENERAL APPLIC.
IEEE T.MAG	IEEE TRANSACTIONS ON MAGNETICS
IEEE T.MTT	IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES
IEEE T.NS	IEEE TRANSACTIONS ON NUCLEAR SCIENCE
IEEE T.PAS	IEEE TRANSACTIONS ON POWER APPARATUS AND SYSTEMS
INSTR.EXP.TECHN.	INSTRUMENTS AND EXPERIMENTAL TECHNIQUES
INT.EL.RUNDSCHAU	INTERNATIONALE ELEKTRONISCHE RUNDSCHAU
INT.J.ENG.SCI.	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE

J

J.AMER.CER.SOC.	JOURNAL OF THE AMERICAN CERAMIC SOCIETY
JAP.J.APPL.PHYS.	JAPANESE JOURNAL OF APPLIED PHYSICS
J.APPL.PHYS.	JOURNAL OF APPLIED PHYSICS
JETP-LETTERS	JETP-LETTERS
J.RES.NBS(A)	JOURNAL OF RESEARCH OF THE NBS (A)
J.SCI.INSTRUM.	JOURNAL OF SCIENTIFIC INSTRUMENTS

KUNSTSTOFFE

KUNSTSTOFFE

L

LASER ABSTRACTS	LASER ABSTRACTS
LASER FCCUS	LASER FOCUS

N

NICKELBERICHTE	NICKELBERICHTE
NTZ	NACHRICHTENTECHNISCHE ZEITSCHRIFT
NUCL.SCI.ABSTR.	NUCLEAR SCIENCE ABSTRACTS

OPTICAL SPECTRA

OPTICAL SPECTRA

P

PHIL.EL.M.MIC.N.	PHILIPS ELECTRONIC MEASURING AND MICROWAVE NOTES
PHIL.TECH.R.	PHILIPS TECHNISCHE RUNDSCHAU
PHYS.BERICHTE	PHYSIKALISCHE BERICHTE
PHYS.REV.LETTERS	PHYSICAL REVIEW LETTERS
PROC.IEE	PROCEEDINGS OF THE IEE
PROC.IEEE	PROCEEDINGS OF THE IEEE
PROGR.MAT.SCI.	PROGRESS IN MATERIALS SCIENCE

R

RADIO EL.ENG.	RADIO AND ELECTRONIC ENGINEER
RCA-REVIEW	RCA-REVIEW
R.ENG.EL.PHYS.	RADIO ENGINEERING AND ELECTRONIC PHYSICS
REV.SCI.INSTRUM.	REVIEW OF SCIENTIFIC INSTRUMENTS
RT	REGELUNGSTECHNIK
RTP	REGELUNGSTECHNISCHE PRAXIS

S

SCI.ABSTR.(A)	SCIENCE ABSTRACTS (A) - PHYSICAL ABSTRACTS
SCI.ABSTR.(B)	SCIENCE ABSTRACTS (B) - ELECTRONIC ENGINEERING
SCI.ABSTR.(C)	SCIENCE ABSTRACTS (C) - CONTROL ABSTRACTS
SIEMENS E.BER.	SIEMENS ENTWICKLUNGSBERICHTE
SIEMENS T.MITT.	SIEMENS TECHNISCHE MITTEILUNGEN

SIEMENS Z.  
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SOV.PHYS.JETP  
SOV.PHYS.SOL.ST.  
SOV.PHYS.T.P.

SIEMENS-ZEITSCHRIFT  
SOVIET ELECTRICAL ENGINEERING  
SOVIET PHYSICS DOKLADY  
SOVIET PHYSICS JETP  
SOVIET PHYSICS - SOLID-STATE  
SOVIET PHYSICS - TECHNICAL PHYSICS

US.GOV.RES.REP. U.S. GOVERNMENT RESEARCH AND DEVELOPMENT REPORTS

T

TELEFUNKEN-Z.  
T.M.AEG-TELEF.

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Z.INSTRUMKDE

ZEITSCHRIFT FUER ANGEWANDTE PHYSIK  
ZEITSCHRIFT FUER INSTRUMENTENKUNDE

THESAURUS



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PULSE VOLTAGE MEASUREMENTS  
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PULSED MAGNETIC FIELDS  
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TRANSDUCERS  
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TRANSIENT BEHAVIOUR  
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TRIGGER CIRCUITS

V

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W

WATER COOLED MAGNETS  
WELDING

WITHOUT KEY WORD