

CLM-LM 8/73

GARCHING: LIBRARY AND DOCUMENTATION UNIT

(Note of visit by J L Hall in September  
1973)

October 1973



Visit to The Institut fur Plasmaphysik, Garching,  
Library and Documentation Unit

1. INTRODUCTION

A visit (by JLH) was made to Garching on 19-20 September 1973, primarily to discuss various policy matters connected with the provision of European fusion translation services, comprehensive printed indexes covering the fusion field, and other documentation matters including an exchange of views on "service levels" and budgets etc.

The opportunity was taken to make brief visits to the Main Library, a Divisional Library, and to the Documentation Unit, and the purpose of this note is to set down brief details of these units as observed at the time of visit.

2. GARCHING - GENERAL

Garching is situated some 11 miles NNE of Munich. The site is a compact one as can be seen from the plan (Fig.1). Details of the IPP Divisional structure, staffing, budget etc. are given in "Jahresbericht 1972" (pp.256 et seq.). Both the Library and the Documentation Unit are part of Theory Division (Division Head, Prof Dr D Pfirsch). In addition to the Main Library there are small libraries in each of the 9 divisions on site. The IPP telephone number is München 0811/38311 and the Telex number is 5/24637.



### 3. MAIN LIBRARY

Accommodation - some 8,200 sq.ft. is available. Bearing in mind that Garching is a larger establishment than Culham this seems a reasonable space allocation allowing for some expansion in the future. A plan of the Library is attached (Fig.2). The Library building itself is fairly new, the Library having out-grown its former accommodation of some 3,600 sq.ft.

#### Staff

Fr Dr Liselott Johannsen	Ext.9182	Librarian
Fr Roswitha Maly-Motta	Ext.9183	Secretary
Fr Olga Kompus	Ext.9189	Reading Room
Frl Eva Rudolf	Ext.9184	Orders, "approvals"
Fr Ruth Lengyel	Ext.9186	) Outside Loans,
Fr Helga Toffolo	Ext.9186	) Garching
Fr Luise Baran	Ext.9190	) publications
		Reports Library

#### Stock

Books - some 8,000 to 10,000 are held in the Main Library (although the total number of books held on site including those held in Divisional Libraries is over 16,000). Books are shelved according to a simple scheme (sample page attached, Fig.3, full copy held by Culham Librarian); since this scheme, devised a number of years ago, contains only some 100 allowed "slots" there are obvious difficulties arising now that the collection is so much larger than in past years.

Journals - over 8,000 volumes are held. These are filed alphabetically by main title. A complete "holdings list" is available (sample page, Fig.4).

Reports - about 21,000 reports are held, filed numerically by an accession number allocated by Garching.

Loans - not much material is loaned from the Main Library stock which is largely a reference library; loan requirements are largely satisfied via the Divisional collections.

#### Indexes

Books. There are some 9,000 author cards the rule apparently being to file only by name of first author. The subject card collection is slightly larger at about 11,000 entries; the subject index is based exactly on the above-mentioned shelving scheme and many sections of the index show the same "bulk" problems as do the books on the shelves. There are small separate card indexes for (i) journals by title, (ii)



bibliographies, (iii) conferences by principal keyword, (iv) conferences by place, (v) conferences by date.

Journals. There are no special indexes to journal articles, reliance being entirely on the various printed indexes available.

Reports. There are some 21,000 author cards, filing being apparently by first author only. There are also some 21,000 corporate author cards, these cards being filed in two separate sequences - non-US (about 10,000 cards) and US (about 11,000 cards). There are also small separate card indexes for (i) theses by author, and (ii) patents by country.

Publications. The Library produces fortnightly a "New Books" title list, sample page attached (Fig.5). The Library also issues a "Quarterly Title List" (with abstracts) of publications by Garching staff, and an annual list of Garching "Laboratory Reports and Publications" (without abstracts).





#### 4. DOCUMENTATION UNIT

The aims of the Documentation Unit are the selection of material of interest to Garching staff, the preparation of printed indexes based on this material, and the operation of a computer batch searching service on a request basis.

Staff. The Documentation Unit is in the charge of one of the scientists in Theory Division, Dr Karl-Ulrich von Hagenow (Ext.355). Dr von Hagenow spends only a small proportion of his time on documentation matters and the bulk of the work of the Documentation Unit is handled by

Fr Martha Mueller-Verweyen (Ext.9178)

Fr Charlotte Marquardt (Ext.9178)

plus one IBM 026 punch operator

All these staff are in offices close to the Main Library. Mrs Mueller is very well versed in the day-to-day running of the Documentation Unit, and in the running of the computer programs, having worked on the production of the "Plasma Physics Index" from its inception 8 years ago.

Input. Material is selected from the Main Library collection, scanned and key-worded by scientists on site, original documents being returned to the Main Library within 5-15 days. Details on the work-sheets are key-punched, various proof and correction computer runs are made, and the final line-printer output is then finally vetted by one of the Theory Division Scientific staff and also checked for any translation points arising. Currently the output is upper case only, but there is a possibility that upper case/lower case will be introduced sometime during 1974. The master copy is then sent to ZAED for printing. The Plasma Physics Index is under the direct control of the Documentation Unit; however, the Technology Index is prepared within Technology Division and is only handled by the Documentation Unit from the time of key-punching onwards.

Printed output. The principal printed outputs of the Documentation Unit are the monthly Index volumes mentioned above; a sample page from the bibliographic listing in the Plasma Physics Index is shown in Fig.6; each issue is equipped with an author index (see Fig.7), a subject index for that issue (Fig.8) and a cumulative (for each year) "Subject Index in Logical Order" allowing manual co-ordinate searches to be made (Fig.9).

The monthly index volumes necessarily take some time to prepare, and to speed up current awareness a list of "quick titles" from the leading six or seven plasma physics journals is circulated rapidly to all scientists on site (sample page shown in Fig.10). There is no SDI service, nor does there



seem to be much desire for one.

Retrospective Searches. Searches can be carried out manually using the printed indexes mentioned above, or in batch mode as required on the Garching IBM 360/195. There is a reasonable demand for computer batch searching - in a recent six month period the Documentation Unit ran about 40 searches, the output of "found" references varying from 3 references to over 1,000 references. Computer time used was said to be about 1 minute or less per search. Normal Boolean AND/OR/NOT search is used, searching being straightforward sequential. In formulating a search profile, use is made of frequency statistics, e.g. a page of the 1970 statistics for the Plasma Physics Index is attached (Fig. 11, full copy held by Culham Librarian).

A sample search was carried out during the visit (there was some delay in the carrying out of this search during the visit, but under optimum conditions search results are apparently available within about 30 minutes of search demand). The search was for references meeting the statement

("DRIFT INSTABILITIES" OR "DRIFT WAVES") & ("TOROIDAL GEOMETRY" OR "TOROIDAL EQUILIBRIUM")

Sample output is shown in Fig.12; the search produced 14 "found" references as follows, from 1,132 titles tested and 35,586 titles scanned.

<u>Year</u>	<u>No. found</u>	<u>Bibliographic Number</u>
1967	Nil	
1968	2	3558, 4832
1969	2	4632, 5484
1970	3	1993, 3957, 5914
1971	2	3965, 5170
1972	2	4947, 5425
1973	3	1731, 1946, 2942

Size of Data Bases (document titles)

	<u>end-1972</u>	<u>September 1973</u>
Plasma Physics Index	32,401	35,586
Technology Index	12,445	~ 14,700
Surface and Vacuum Physics Index	13,845	~ 15,600

Gaps in Coverage: Garching and Culham. From figures available, comparing (i) subscription lists and (ii) the "scanning lists" for both Plasma Physics Index and Technology Index, it is clear that both Garching and Culham cover a common "core" of journals and that each site covers a separate "set" of journals relevant to its own particular interests. The existence of peripheral "sets" is only to be expected but their size is surprisingly large:



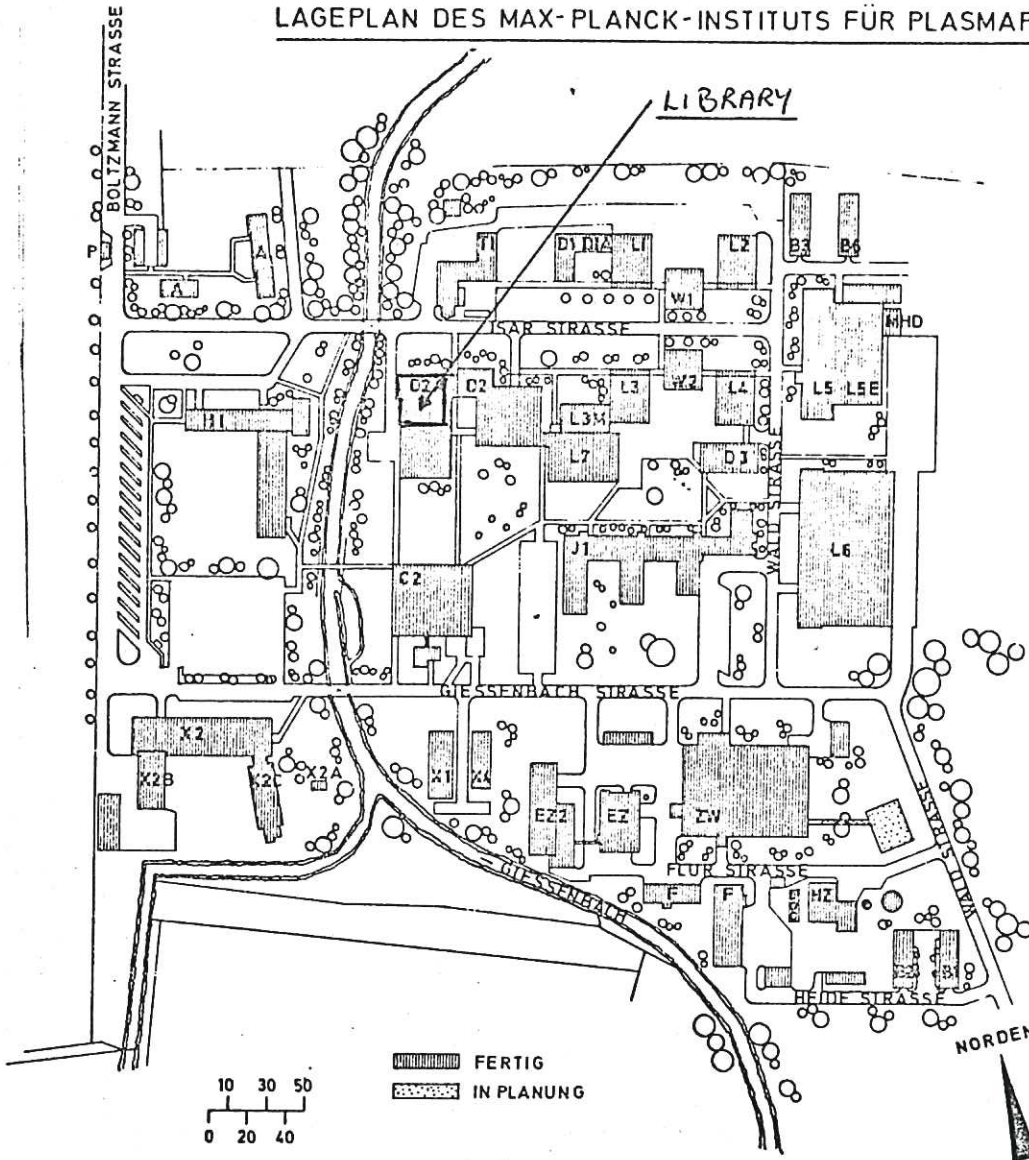
No. of Journal Titles Scanned		
Culham Unique	Common	Garching Unique
~ 143	~ 135	~ 145

J L Hall  
October 1973





# LAGEPLAN DES MAX-PLANCK-INSTITUTS FÜR PLASMAPHYSIK



- P
- A
- T1 - D1 - D1A - L1 - W1 - L2
- L3 - L3M - L7 - W2 (Teil) - D3
- L6 (Teil)
- L5 - L5E - MHD
- L6 (Teil)
- D2 - D2A (Teil)
- D2A (Teil)
- L4 - W2 (Teil) - B3
- I1 - L6 (Teil)
- ZW
- EZ - EZ 2
- H1
- B1 - B2
- B6
- C2
- X1 - X4

- Pforte
- Dienstwohnungen - Gästewohnungen
- Experimentelle Plasmaphysik 1
- Experimentelle Plasmaphysik 2
- Experimentelle Plasmaphysik 3
- Experimentelle Plasmaphysik 4
- Relativistische Plasmen
- Abteilung Theorie
- Abteilung Informatik
- Abteilung Oberflächenphysik
- Abteilung Technik
- Zentralwerkstatt - Zentrallager
- Energiezentralen
- Geschäftsführung
- Verwaltung und Allgemeine Dienste
- Hausverwaltung
- Gerätepool
- Kantine
- Max-Planck-Institut für Physik und Astrophysik  
(Institut für Extraterrestrische Physik)

Abb.6

Fig.1 Plan of Garching Site





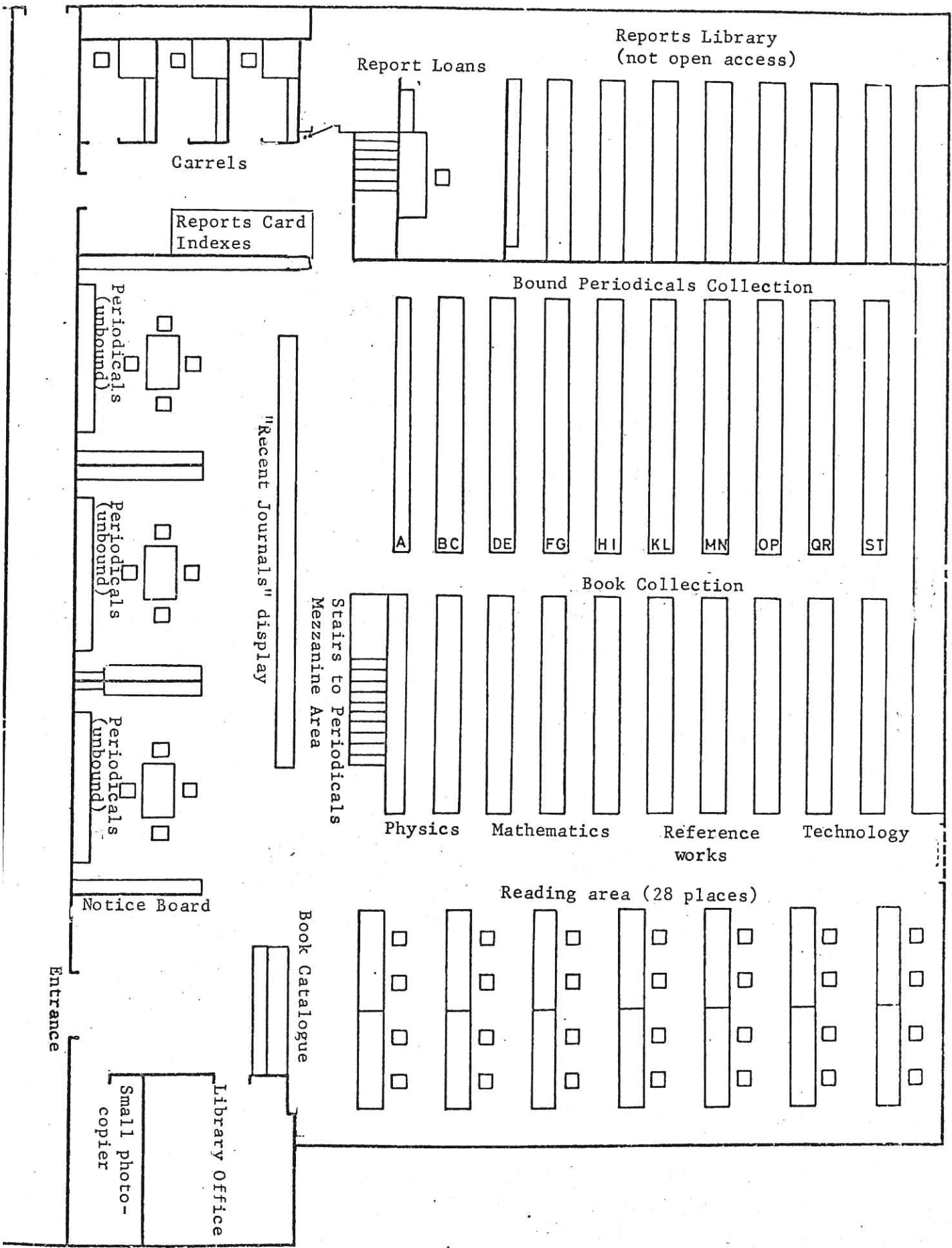


Fig.2 Garching Main Library



N - Naturwissenschaften

- Na - Strahlenschutz
- Nb - Biologie - Biophysik
- Nc - Chemie
- Nd - Physikalische Chemie
- Ne - Landolt-Börnstein
- Nf - Thermophysical Properties of Matter
- Ng - Umweltschutz - Lärmschutz

P - Physik

- Pa - Grundlagen der Physik - Geschichtliches
- Pb - Handbücher - Lexika der Physik
- Pc - Lehrbücher (zusammenfassend)
- Pd - Mechanik- technische Mechanik
- Pe - Kontinuumsmechanik - Akustik
- Pf - Thermodynamik - Statistische Mechanik - Kinetische Theorie
- Pg - Elektrodynamik
- Ph - Optik - Optische Instrumente - Laser
- Pi - Relativitätstheorie - Gravitation - Kosmologie
- Pj - Quantenfeldtheorie - Elementarteilchen
- Pk - Quantentheorie
- Pl - Atom- und Molekülphysik - Spektren
- Pm - Kernphysik
- Pn - Aufbau der Materie - Flüssigkeiten - Festkörper
- Po - Plasmaphysik
  - Po (E) - Elementarprozesse im Plasma
  - Po (T) - Plasma-Tagungen und -Sommerschulen
- Pp - Astrophysik - Astronomie - Geophysik - Astronautik
- Pq - Vakuumphysik - Vakuumtechnik - Oberflächen - Dünne Schichten
- Pr - Tieftemperaturphysik - -technik - Supraleitung
- Ps - Elektronen- und Ionenoptik - Massenspektroskopie - Beschleuniger
- Px - Meßmethoden - Maßsysteme
- Py - Physikalische Tabellen und Formelsammlungen
- Pz - Physikalische Festschriften - Tagungen

Fig.3 Example of shelving/classification scheme



Standort	T i t e l	Band/Jahr
Regal 1	Abhandlungen d. Akad.d.Wiss. in Göttingen. Math.-Phys. Klasse	<u>1-16</u> (1897-1931)
Abt.Informatik	Acta Informatica. Berlin	<u>1</u> (1971) ff.
Regal 1	Acta Physica Polonica. Warszawa	<u>1-36</u> (1932-1969)
1	Acta Physica Polonica (A). Warszawa	<u>37</u> (1970) ff.
1	Acta Physica Polonica (B). Warszawa	<u>1</u> (1970) ff.
1	Advanced Energy Conversion. Oxford (später: Energy Conversion)	<u>1-7</u> (1961-1967)
Pe 8	Advances in Applied Mechanics. New York	<u>1</u> (1948) ff. (L.)
Pe 1	Advances in Applied Mechanics/Supplement New York	<u>1</u> (1961) ff.
Pp 92	Advances in Astronomy & Astrophysics. New York	<u>1</u> (1962) ff.
Pl 43	Advances in Atomic & Molecular Physics. New York	<u>1</u> (1965) ff.
Regal 1	Advances in Catalysis & Related Subjects. New York	<u>1-20</u> (1948-1969)
Nc 25	Advances in Chromatography. New York	<u>1</u> (1965) ff.
Mn I 59	Advances in Computers. New York	<u>1</u> (1960) ff.
Pr 11	Advances in Cryogenic Engineering. New York	<u>5</u> (1959) ff.
Regal 1	Advances in Electronic & Electron Physics. New York (bis 1953: Advances in Electronics)	<u>1</u> (1948) ff.
1	Advances in Electronic & Electron Physics/Supplement. New York	<u>1</u> (1963) ff.
Pe 90	Advances in Heat Transfer. New York	<u>1</u> (1964) ff.
Pn 95	Advances in High Pressure Research. New York	<u>1</u> (1966) ff.
Ps 3	Advances in Mass Spectrometry. London	<u>1</u> (1958) ff.
Tc 44	Advances in Microwaves. New York	<u>1</u> (1966) ff.
Pm 158	Advances in Nuclear Science and Technology. New York	<u>1</u> (1962) ff.
Regal 1	Advances in Physics. London	<u>1</u> (1952) ff.
Po 235	Advances in Plasma Physics. New York	<u>1</u> (1968) ff.
Ml I 92	Advances in Probability & Related Topics. New York	<u>1</u> (1970) ff.
Pc 35	Advances in Theoretical Physics. New York	<u>1</u> (1965) ff.
Regal 1	AEG-Mitteilungen. Berlin	<u>52-57</u> (1962-1967)

Fig.4 Sample page from Library's "Holdings List" of Journals, Periodicals.





NEUERWERBUNGEN VON BÜCHERN IN DER  
HAUPTBIBLIOTHEK

M a t h e m a t i k

Kogbetliantz, E.G.

Fundamentals of Mathematics from an Advanced Viewpoint. Mb I 37  
Algebra and Analysis: Evolution of the Number Concept  
and Determinants - Equations - Logarithms. Vol. I and  
II. (= 1 Buch).  
New York, N.Y.: Gordon and Breach 1968.

Noble, B.

Numerisches Rechnen II. Differenzen, Integration und Mk I 36  
Differentialgleichungen.  
Mannheim: Bibliograph. Inst. 1973.

Young, D.M. / Gregory, R.T.

A Survey of Numerical Mathematics Vol. II. Mk I 75  
Reading, Mass.: Addison-Wesley 1973.

Martin, H.C. / Carey, G.F.

Introduction to Finite Element Analysis. Theory and Mk II 17  
Application.  
New York, N.Y.: McGraw-Hill 1973.

Byrne, G.D. / Hall, C.A. (ed.)

Numerical Solution of Systems of Nonlinear Algebraic Mk III 82  
Equations. Papers presented at the NSF-CBMS Regional  
Conference on the Numerical Solution of Nonlinear  
Algebraic Systems with Applications to Problems in  
Physics, Engineering and Economics, held at the  
University of Pittsburgh, July 10-14, 1972.  
New York, N.Y.: Academic Pr. 1973.

Collatz, L. / Wetterling, W. (Hrsg.)

Numerische Methoden bei Optimierungsaufgaben. Vortrags- Mm 56  
auszüge der Tagung über numerische Methoden bei  
Optimierungsaufgaben vom 14-20 November 1971 im  
Mathematischen Forschungsinstitut Oberwolfach  
(Schwarzwald).  
Basel: Birkhäuser Verl. 1973.





- 3119  
STUDY OF THE AMPLITUDE OF AN ELECTROMAGNETIC WAVE  
REFLECTED FROM THE BOUNDARY OF AN ANISOTROPIC PLASMA  
ADAMOY I.YU.  
BEREZHNYY V.L.  
DUSHIN L.A.  
LEBEDEV P.M.  
KONONENKO V.I.  
AEC \* COPY OF AEC-TR-7368, 1972,  
REFLECTION OF WAVES  
ELECTROMAGNETIC WAVES  
BOUNDED PLASMA  
AMPLIFICATION  
ANISOTROPY EFFECTS  
COLLISION EFFECTS  
ELECTRON DENSITY CALCULATIONS  
DIAGNOSTICS  
NUMERICAL TREATMENT  
/THEORETICAL/ P12423
- 3120  
CALCULATION OF REFLECT. AND TRANSMISSION  
COEFFICIENTS FOR A CLASS OF ONE-DIMENSIONAL WAVE  
PROPAGATION PROBLEMS IN INHOMOGENEOUS MEDIA  
BANOS A., JR  
UCPLPG \* PPG-124, 1972,  
REFLECTION OF WAVES  
TRANSMISSION OF WAVES  
INHOMOGENEOUS PLASMA  
ONE-DIMENSIONAL PROBLEMS  
BOUNDARY CONDITIONS  
APPROXIMATION METHODS  
/HELMHOLTZ EQUATION/  
WAVE PROPAGATION  
/THEORETICAL/ P12458
- 3121  
AMPLITUDE SATURATION OF DRIFT WAVES IN A Q MACHINE  
KRAYBILL D.M.  
ILL-R \* REP.R-574, UIIU-ENG 72-2235, (AD  
747852), 1972, P12459  
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Q DEVICES  
NONLINEAR EFFECTS  
DENSITY GRADIENT INSTABILITIES  
ELECTRIC FIELD EFFECTS  
COLLISIONLESS PLASMA  
COLLISION EFFECTS  
WAVE PARTICLE INTERACTIONS  
INERTIAL EFFECTS  
STABILIZING EFFECTS  
LANDAU DAMPING  
/EXPERIMENTAL/
- 3122  
PRODUCTION OF THERMONUCLEAR PLASMAS BY ANOMALOUS  
DIFFUSION OF MAGNETIC FIELDS IN A HIGH VOLTAGE THETA  
INCH  
PERSONAL AUTHOR  
MNE \* ANN-SUMMARY REP., 1971, (AD 738870), P12460  
971,  
LOW DENSITY PLASMA  
COLLISIONLESS PLASMA  
MAGNETIC FIELD DIFFUSION  
ANOMALOUS EFFECTS  
PLASMA PRODUCTION  
THERMONUCLEAR REACTIONS  
THETA PINCHES  
COLLISIONLESS SHOCK WAVES  
HEATING OF IONS  
HEATING OF ELECTRONS  
PROGRESS REPORTS  
INSTABILITY OF PLASMA  
PLASMA TURBULENCE
- 3123  
EXPERIMENTAL INVESTIGATION OF THE ELECTRICAL AND  
THERMAL PROPERTIES OF STABILIZED ARCS (IN RUSSIAN)  
NSKOI A.V.  
UBNIKIN V.S.  
RKHOMENKO A.S.  
T \* COPY OF INZHEMerno FIZ.ZH., VOL.22/6, P12431  
72, 1089-1895,  
ARCS  
PLASMATRONS  
STABILIZING EFFECTS  
ELECTRIC FIELD DISTRIBUTIONS  
POTENTIAL DISTRIBUTIONS  
ARGON PLASMA  
/EXPERIMENTAL/
- 3124  
QUADRUPOLE MASS SPECTROMETER APPARATUS FOR PLASMA  
DIAGNOSTICS BASED ON THE MASSES OF CHARGED PARTICLES  
(RUSSIAN)
- EGOROV V.S.  
PASTOR A.A.  
PLEKHOTIN G.A.  
LIT \* COPY OF VESTNIK LENINGRADSK.UNIV.,  
NO.16, 1972, 69-75, P12463  
MASS SPECTROSCOPY  
DIAGNOSTICS  
CHARGE EFFECTS  
COMPONENTS FOR DEVICES  
NEON PLASMA  
ARGON PLASMA  
/EXPERIMENTAL/
- 3125  
EFFECT OF RANDOM ERRORS IN PLASMA EMISSIVITY  
CALCULATIONS (IN RUSSIAN)  
LITVINOVA N.N.  
LIT \* COPY OF VESTNIK LENINGRADSK.UNIV.,  
NO.16, 1972, 37-45, P12464  
EMISSION OF RADIATION  
OPTICAL RADIATION  
DIAGNOSTICS  
ABEL EQUATION  
STATISTICS  
/THEORETICAL/
- 3126  
LASL CONTROLLED THERMONUCLEAR RESEARCH PROGRAM FOR  
A 12-MONTH PERIOD ENDING OCTOBER 1971  
MOTZ H.T.  
LA \* LA-4888-PR, 1972, P12449  
PROGRESS REPORTS  
THETA PINCHES  
Z PINCHES  
HELICAL FIELDS  
LASER DIAGNOSTICS  
THERMONUCLEAR DEVICES  
HEATING BY SHOCK WAVES  
MHD INSTABILITIES  
DIFFUSION IN MAGNETIC FIELDS  
MICROWAVE DIAGNOSTICS  
HEATING OF ELECTRONS  
MULTIPOLES  
INJECTION OF PLASMA
- 3127  
EXPERIMENTAL PLASMA STUDIES  
DUNN M.G.  
NASA \* NASA CR-1958, 1972, P12450  
DISSOCIATIVE RECOMBINATION  
THREE-BODY RECOMBINATION  
LANGMUIR PROBES  
MICROWAVE INTERFEROMETRY  
ELECTRON DENSITY MEASUREMENTS  
ELECTRON TEMPERATURE MEASUREMENTS  
BOUNDARY LAYERS
- 3128  
HIGH MACH NUMBER TURBULENT MAGNETOSONIC SHOCKS  
PAPADOPOULOS K.  
WAGNER C.E.  
HABER I.  
NRL \* NRL MEMO REP.2359, 1971, P12451  
TURBULENT FLOW  
MAGNETOACOUSTIC WAVES  
SHOCK WAVES  
COMPUTER SIMULATION
- 3129  
AN INVESTIGATION OF THE TEMPERATURE DISTRIBUTION IN  
THE LITHIUM BLANKET OF A FUSION REACTOR  
LEVERETTE S.J.  
ORNL \* COPY OF ORNL TM 3701, 1972, P12452  
NUMERICAL TREATMENT  
THERMAL CONDUCTIVITY  
ENERGY DISTRIBUTIONS  
REACTOR STUDIES  
STRONG MAGNETIC FIELDS  
COOLING SYSTEMS
- 3130  
FREQUENCY SHIFT DUE TO TRAPPED PARTICLES  
DEWAR R.L.  
PRINCETON \* PPL-AP50, 1971, P12453  
TRAPPING OF PARTICLES  
ELECTROSTATIC WAVES  
DISTRIBUTION FUNCTIONS  
NONLINEAR EFFECTS  
DISPERSION RELATIONS  
COMPUTER SIMULATION  
REACTOR STUDIES  
CRYOGENICS

Fig.6 Sample of Bibliographic Listing from  
Plasma Physics Index



- KIVELSON M.  
2878 OBSERVATION OF A CURRENT-DRIVEN PLASMA  
INSTABILITY AT THE OUTER ZONE PLASMA SHEET  
BOUNDARY
- KLEIN L.  
2806 QUASI-MONOCROMATIC MEASUREMENTS OF  
HOMOGENEOUS ARC PLASMAS  
2807 STRENGTH OF THE ROTATIONAL LINES OF OH(A<sup>2</sup>  
SIGMA-X<sup>2</sup> PI) AND OCCUPATION OF THE MOLECULAR  
ENERGY LEVELS IN ARC PLASMAS
- KLEINMAN L.  
2900 IMPROVED HYDRODYNAMIC THEORY OF SURFACE  
PLASMONS
- KLIEWER K.L.  
2902 PLASMON PROPERTIES IN BCC POTASSIUM AND SODIUM
- KLIHA R.  
3104 ON THE MOMENTUM OF QUASI-MONOCROMATIC WAVES  
IN A PLASMA  
3111 NONLINEAR DRAGGING OF PARTICLES IN HIGH  
FREQUENCY HEATING  
3115 MICROWAVE HEATING OF ELECTRONS OF A DENSE  
PLASMA COLUMN AT FREQUENCIES HIGHER THAN  
ELECTRON CYCLOTRON FREQUENCY
- KLOOS T.  
2892 THE DISPERSION OF SURFACE PLASMONS OF AL AND  
MG
- KLUBNIKIN V.S.  
3123 EXPERIMENTAL INVESTIGATION OF THE ELECTRICAL  
AND THERMAL PROPERTIES OF STABILIZED ARCS (IN  
RUSSIAN)  
3169 MEASUREMENT OF VELOCITY AND TEMPERATURE OF  
FINE TUNGSTEN PARTICLES IN AN ARGON PLASMA JET
- KIZHNIKOV V.N.  
3151 CATHODIC PHENOMENA CONSIDERING A PLASMA  
THERMOEMISSION DIODE IN CAESIUM VAPOURS
- KOCH J.F.  
2903 QUANTUM ASPECTS AND ELECTRODYNAMICS OF HIGH  
FREQUENCY CYCLOTRON RESONANCES IN BISMUTH
- KOGAN Y.Y.  
3148 CERTAIN FEATURES OF A CAESIUM DISCHARGE PLASMA  
WHICH ARE CAUSED BY NEAR-ELECTRODE PHENOMENA
- KRUSHKIN A.M.  
2725 PHOTODISSOCIATION OF IODINE MOLECULES UNDER  
THE ACTION OF POWERFUL LAMDA=5310  
ANGSTROM.DETERMIN.OF THE RECOMBIN.RATE  
COEFF.OF IODINE ATOMS
- KLPAKOVA I.V.  
2740 PORTABLE LIGHT SOURCE WITH A PLANE BODY FOR  
EMISSION OF HIGH BRIGHTNESS BASED ON A SURFACE  
DISCHARGE (IN RUSSIAN)
- KORATENKO A.N.  
2747 TRANSFORMATION OF WAVES BY OBLIQUE INCIDENCE  
ON THE BOUNDARY OF A MAGNETOPLASMA (IN  
RUSSIAN)  
2755 NONLINEAR TRANSFORMATION OF AN ELECTROMAGNETIC  
WAVE AT THE BOUNDARY OF A MAGNETOPLASMA (IN  
RUSSIAN)
- KO M.  
2840 RENORMALIZATION OF THE WAVE PARTICLE  
INTERACTION IN WEAKLY TURBULENT PLASMAS
- KONENKO V.I.  
2951 EXPERIMENTAL INVESTIGATION OF THE INSTABILITY  
OF A TURBULENT PLASMA (IN RUSSIAN)  
3119 STUDY OF THE AMPLITUDE OF AN ELECTROMAGNETIC  
WAVE REFLECTED FROM THE BOUNDARY OF AN  
ANISOTROPIC PLASMA
- KOPECKY V.  
3109 PENETRA.OF HIGH FREQUENCY WAVES INTO A WEAKLY  
INHOMOGEN.MAGNETIZED PLASMA AT OBLIQUE  
INCIDENCE AND THEIR TRANSFORMATION TO  
BERNSTEIN MODES
- CHEVOY Y.P.  
148 CERTAIN FEATURES OF A CAESIUM DISCHARGE PLASMA  
WHICH ARE CAUSED BY NEAR-ELECTRODE PHENOMENA
- KORENEV YE.A.  
3138 CERTAIN PROBLEMS IN THE PROBE METHOD
- KOROBKOV V.A.  
3140 STUDY OF A PLASMA STREAM BY THE PROBE AND  
MICROWAVE METHODS
- KOROBOVA I.L.  
3136 CALCULATION OF THE STATE OF THE PLASMA OF A  
LOW VOLTAGE ARC IN A NARROW INNER ELECTRODE
- KOROBOVA N.I.  
3133 PROBE MEASUREMENTS IN A PLASMA UNDER  
RECOMBINATION CONDITIONS
- KORSUN A.G.  
3152 NEAR-ANODE PROCESSES IN A MHD CHANNEL
- KORZH V.G.  
2702 EXCITATION OF AN OPEN RESONATOR WITH THE  
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- KRIMIGIS S.M.  
2816 DIRECTIONAL DIFFUSION COEFFICIENTS OF SOLAR  
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2736 DISTRIBUTION OF ATOMS IN THE SPACE BETWEEN THE  
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- KRLIN L.  
3176 SOME NONLINEAR PHENOMENA ASSOCIATED WITH HIGH  
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Fig.7 Sample of Author Index to Plasma Physics Index





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- 3133 PROBE MEASUREMENTS IN A PLASMA UNDER RECOMBINATION CONDITIONS
- 3142 CERTAIN PHYSICAL PROPERTIES OF A PLASMA IN CAESIUM VAPOURS
- 3146 ELECTRON TEMPERATURE AND CONCENTRATION RELAXATION IN A SUPERSONIC RAREFIED PLASMA STREAM

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- 2747 TRANSFORMATION OF WAVES BY OBLIQUE INCIDENCE ON THE BOUNDARY OF A MAGNETOPLASMA (IN RUSSIAN)
- 2755 NONLINEAR TRANSFORMATION OF AN ELECTROMAGNETIC WAVE AT THE BOUNDARY OF A MAGNETOPLASMA (IN RUSSIAN)
- 2982 PHASE VELOCITIES OF IRREGULARITIES IN THE EQUATORIAL ELECTROJET
- 2883 UNIFIED THEORY OF TYPE I AND II IRREGULARITIES IN THE EQUATORIAL ELECTROJET
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- 2961 CHARACTERISTICS OF FAST AND SLOW MAGNETOSONIC WAVES IN LAYERED PLASMAS
- 3023 CORRECTED MICROWAVE TRANSMISSION DATA FOR AIR PLASMA MEASUREMENTS  $\theta$  LESS THAN OR  $=\theta(S)$  LESS THAN OR  $=12$ ,  $1$  LESS THAN OR  $=P(1)$  LESS THAN
- 3052 MEASUREMENT OF THE SELF-ABSORPTION OF A PLASMA CONFINED IN A TUBE
- 3058 COUPLED HYDROMAGNETIC MODES. INITIAL VALUE PROBLEMS
- 3074 INFRARED EMISSION AND 10.6 MICRON LASER SCATTERING FROM THE DENSE PLASMA FOCUS
- 3092 REFLECTOMETER DIAGNOSIS OF THIN BOUNDARY LAYER PLASMA SHEATHS
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- 3119 STUDY OF THE AMPLITUDE OF AN ELECTROMAGNETIC WAVE REFLECTED FROM THE BOUNDARY OF AN ANISOTROPIC PLASMA
- 3120 CALCULATION OF REFLECT AND TRANSMISSION COEFFICIENTS FOR A CLASS OF ONE-DIMENSIONAL WAVE PROPAGATION PROBLEMS IN INHOMOGENEOUS MEDIA

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- 2809 GROUP REFRACTIVE INDEX INVOLVING TEMPERATURE AND ION EFFECTS (OF IONOSPHERE)
- 2871 ALFVEN WAVE REFRACTION BY INTERPLANETARY INHOMOGENEITIES
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- 2688 OBSERVATION OF COHERENT CERENKOV RADIATION FROM PLASMA
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- 2890 DESTRUCTIVE INSTABILITIES IN HOLLOW INTENSE RELATIVISTIC ELECTRON BEAMS
- 2925 THE SLOWING DOWN OF RELATIVISTIC ELECTRONS IN PLASMA
- 2971 USE OF DIFFUSING INDUCTIVE FIELDS OF A RELATIVISTIC BEAM PLASMA SYSTEM TO DETERMINE PLASMA CONDUCTIVITY
- 3001 PLASMA BREMSSTRAHLUNG FROM RELATIVISTIC PARTICLES IN A TURBULENT PLASMA
- 3064 INTERACTION OF A RELATIVISTIC ELECTRON BEAM WITH A BOUNDED PLASMA
- 3086 COUPLING AND DECOUPLING OF BETATRON OSCILLATIONS BY LONGITUDINAL MAGNETIC FIELDS, WITH APPLICATIONS TO THE LONGITUDINAL DETECTOR FIELD
- 3091 ROLE OF ION MOTION AND OF RETURN CURRENTS IN TRANSVERSE INSTABILITY OF COLLIDING PLASMAS

POLARIZED RADIATION OF RELATIVISTIC ELECTRONS SCATTERED BY PLASMA TURBULENCE

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- 3080 THE RELATIVISTIC THEORY OF ELECTROMAGNETIC SUSCEPTIBILITY AND ITS APPLICATION TO PLASMAS
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- 2903 QUANTUM ASPECTS AND ELECTRODYNAMICS OF HIGH FREQUENCY CYCLOTRON RESONANCES IN BISMUTH
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- 2886 ADIABATIC GAMMA FOR TWO-DIMENSIONAL COMPRESSION OF AN UNSTABLE PLASMA
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- 3146 ELECTRON TEMPERATURE AND CONCENTRATION RELAXATION IN A SUPERSONIC RAREFIED PLASMA STREAM
- 3158 RESEARCH ON TRANSIENT CONDITIONS IN THE LOW VOLTAGE ARC OF A THERMOEMISSION CONVERTER WITH CAESIUM VAPOURS

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- 2707 THEORY OF FILAMENTATION IN RELATIVISTIC ELECTRON BEAMS
- 2799 STABILITY OF NON-EQUILIBRIA OF THE RESISTIVE SHEET PINCH

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- 2820 AN EVALUATION OF IONOSPHERIC PROBE PERFORMANCE. II. THE INFLUENCE OF VEHICLE WAKE EFFECTS ON ELECTRON DENSITY AND TEMPERATURE MEASUREMENTS

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- 2709 COMPREHENSIVE THEORY OF RF ENERGY ABSORPTION BY A HOT ION ELECTRON PLASMA CYLINDER EXCITED BY AN ARBITRARY ELECTROMAGNETIC FIELD
- 2722 PLASMA FLUID EQUATIONS IN THE HIGH COLLISION FREQUENCY LIMIT
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- 2756 RESONANT ABSORPTION OF ELECTROMAGNETIC WAVES BY AN INHOMOGENEOUS MAGNETOPLASMA AT ELECTRIC CYCLOTRON HARMONICS (IN RUSSIAN)
- 2762 CATHODE REGION TAKING CHARGE EXCHANGE INTO ACCOUNT (IN RUSSIAN)
- 2887 THEORY OF RESONANT MULTIPHOTON IONIZATION
- 2903 QUANTUM ASPECTS AND ELECTRODYNAMICS OF HIGH FREQUENCY CYCLOTRON RESONANCES IN BISMUTH
- 2906 FIELD IONIZATION ENERGY SPECTRA
- 2934 ELECTRON HEATING RESONANCES IN A PENNING SOURCE
- 2936 MEASUREMENT OF COLLISIONLESS ELECTRON CYCLOTRON DAMPING ALONG A WEAK MAGNETIC BEACH
- 2943 INFLUENCE OF ION RESONANCE BROADENING ON THE ANOMALOUS HEATING AND MOMENTUM TRANSFER IN A CURRENT CARRYING PLASMA
- 2973 A COMMENT ON C. J. H. WATSON'S CONCEPT OF 'NEAR CYCLOTRON RESONANCE' HF-SUPPLEMENTED MAGNETOSTATIC MIRROR
- 2977 EXPERIMENTAL OBSERVATION OF THE RESONANCES OF A BOUNDED PLASMA IN THE ELECTRON AND MAGNETO-ION DOMAIN
- 2987 RESONANCE ACCELERATION OF LOW ENERGY PROTONS IN THE RADIATION BELTS OF THE EARTH
- 3001 PLASMA BREMSSTRAHLUNG FROM RELATIVISTIC

Fig.8 Sample of Subject Index to Plasma Physics Index





SUBJECT INDEX  
IN LOGICAL ORDER

ION CYCLOTRON HEATING																			
283	555	1303	1580	2291	2585														
ION CYCLOTRON RESONANCE																			
13	252	835	1071	1223	1944	2585	2675												
ION CYCLOTRON WAVES																			
13	575	1302	1303	1321	1620	1633	1755	1817	2090	2116	2169	2431	2724	2911	2977	3061			
IGN WAVE INSTABILITIES																			
1261	2824																		
ION WAVES																			
128	171	247	333	432	804	824	831	904	1013	1169	1234	1509	1730	2311	2396	2482	2633		
2646	2708	2970																	
IONIZATION WAVES																			
423	519	533	649	759	782	786	955	1366	1428	1501	1680	1744	1870	1876	1909	1912	2035		
2222	2233	2306	2317	2326															
LANDAU DAMPING																			
249	311	578	615	658	663	673	823	836	908	956	1044	1108	1110	1113	1333	1392	1702		
1783	1894	1896	1929	2035	2090	2262	2307	2657	2687	2689	2657	2708	2900	3065	3111	3121			
MAGNETOACOUSTIC WAVES																			
83	168	218	326	426	471	473	606	625	666	803	815	1024	1033	1056	1112	1285	1342		
1343	1364	1389	1538	1620	1838	1850	1932	2033	2036	2179	2431	2468	2853	2924	2959	2961	3053		
3128																			
MHD WAVES																			
19	204	628	670	1112	1117	1509	1619	1655	1754	1838	2600	2624	2792	2812	2884	2937	2938		
2991	3182																		
MICROWAVE HEATING																			
356	1227	1603	1699	1712	1735	1821	1910	2187	2253	2591	2827	2910	2952	3096	3105	3108	3110		
3115																			
MICROWAVE RADIATION																			
42	202	343	380	526	530	731	801	921	957	962	1374	1501	1621	1635	1697	1709	1721		
1865	2066	2968	2092	2974	2337	2372	2392	2676	2702	2823	2951	2995	3013	3021					
PARAMETRIC RESONANCES																			
42	47	139	203	313	327	343	359	362	365	384	388	432	532	562	584	609	663		
668	743	749	815	850	876	899	904	925	954	1094	1117	1155	1264	1301	1302	1358	1360		
1363	1511	1515	1529	1530	1545	1656	1730	1743	1852	1854	1884	1894	1939	2083	2158	2188	2248		
2305	2309	2380	2493	2528	2591	2641	2752	2897	2917	3026	3050	3060	3179						
PLASMA OSCILLATIONS																			
69	75	79	99	101	203	218	283	325	359	379	405	477	495	532	538	587	775		
795	816	836	837	851	883	890	906	935	937	940	954	961	970	1023	1024	1044	1117		
1148	1198	1210	1213	1215	1279	1310	1322	1341	1545	1553	1591	1619	1669	1710	1715	1717	1718		
1730	1733	1778	1813	1829	1830	1867	1868	1902	1939	1944	1948	1997	2019	2026	2084	2149	2308		
2311	2312	2378	2396	2408	2466	2469	2504	2526	2529	2545	2582	2697	2699	2723	2751	2763	2797		
2811	2823	2824	2842	2981	2897	2901	2908	2940	2991	3001	3086	3103							
PLASMA PRODUCTION BY SHOCK WAVES																			
225	782	784	786	1066	1125	1501	2071	2235	2314	2862	3172								
REFLECTION OF WAVES																			
8	17	21	101	213	250	268	408	414	433	458	477	499	526	527	540	549	709		
742	751	753	783	810	879	895	958	971	1023	1074	1075	1078	1081	1089	1219	1230	1239		
1240	1242	1271	1314	1332	1469	1475	1476	1510	1537	1540	1545	1550	1552	1653	1835	1837	1843		
1854	1857	1889	1956	2048	2087	2118	2176	2309	2324	2349	2369	2370	2390	2401	2419	2420	2447		
2614	2623	2744	2747	2755	2882	2883	2885	2904	2961	3023	3052	3058	3074	3092	3093	3109	3119		
3120																			
REFRACTION OF WAVES																			
63	92	471	1442	1530	1688	1823	1837	1960	1962	2009	2100	2116	2224	2399	2416	2486	2621		
2808	2809	2371	2966	3074															
RESONANCES																			
7	30	47	50	84	86	87	88	91	94	137	139	241	280	283	284	334	342		
356	359	369	380	381	390	405	431	438	439	459	509	533	554	562	581	638	652		
675	685	718	727	751	778	780	802	811	870	933	954	955	962	1021	1023	1024	1031		
1050	1071	1073	1103	1109	1147	1151	1154	1215	1219	1223	1226	1227	1228	1240	1245	1253	1260		
1264	1318	1335	1445	1526	1532	1563	1621	1622	1633	1668	1673	1697	1698	1719	1721	1812	1821		
1835	1864	1866	1881	1905	1996	2079	2148	2164	2174	2199	2219	2245	2253	2279	2302	2309	2338		
2347	2348	2387	2430	2431	2469	2513	2518	2607	2654	2670	2709	2722	2724	2756	2762	2887	2903		
2906	2934	2936	2943	2973	2977	2997	3001	3022	3048	3058	3061	3062	3063	3065	3066	3105	3108		
3109	3115	3157																	
RESONANT PARTICLES																			
252	302	421	438	439	652	933	1092	1333	2189	2261	2796	2958	2959	2979					
SCATTERING CROSS SECTIONS FOR WAVES																			
236	457	542	546	821	2033	2677	2967	3038											

Fig.9 Sample of "Subject Index in Logical Order" to Plasma Physics Index





OBJECTS

PLASMA TYPES

AFTERGLOW																	
306	307	403	404	417	645	864	1104	1157	1222	1257	1741	1744	1760	1802	2092	2162	2163
2204	2293	2357	2362	2387	2568	2571	2732	2734	3044	3067							
ARCS																	
129	141	150	151	231	254	258	260	264	269	378	393	410	505	507	508	511	512
513	528	536	539	564	632	636	652	719	720	735	760	777	794	825	852	854	855
861	866	899	911	913	938	948	955	957	981	983	984	988	997	1002	1016	1017	1048
1063	1066	1068	1085	1139	1145	1202	1203	1221	1273	1274	1278	1326	1352	1353	1381	1382	1386
1388	1422	1426	1516	1527	1534	1665	1704	1722	1753	1780	1792	1815	1875	1904	1987	2017	2025
2028	2056	2065	2068	2072	2105	2134	2138	2141	2144	2145	2153	2156	2171	2197	2198	2200	2203
2221	2258	2325	2332	2340	2351	2356	2365	2383	2384	2388	2440	2472	2473	2505	2634	2673	2736
2737	2753	2759	2766	2781	2788	2806	2807	2831	2854	2972	3004	3070	3123	3136	3147	3148	3149
3150	3156	3157	3158	3167	3177	3184											
ARGON PLASMA																	
1	6	75	106	109	112	120	128	129	148	149	153	155	156	162	176	215	229
230	244	254	278	287	304	333	335	376	382	402	420	425	504	505	508	512	513
515	518	528	529	538	539	591	587	588	634	637	640	686	687	705	718	720	732
759	783	784	786	801	867	910	935	949	962	979	1010	1016	1024	1025	1063	1119	1120
1125	1128	1129	1143	1224	1229	1274	1276	1306	1323	1348	1354	1381	1407	1408	1423	1500	1505
1527	1556	1557	1618	1654	1722	1815	1821	1874	1999	2020	2049	2105	2135	2136	2138	2145	2157
2196	2214	2222	2227	2229	2235	2252	2258	2314	2318	2347	2363	2366	2385	2428	2448	2459	2481
2503	2546	2580	2583	2649	2673	2681	2694	2706	2731	2737	2778	2801	2854	2865	2898	2952	2957
2966	2995	3035	3054	3067	3070	3110	3123	3124	3140	3146	3153	3159	3160	3167	3169	3174	
BARIUM PLASMA																	
115	126	484	510	828	1456	1457	1840	2821	2881	2984							
BOUNDED PLASMA																	
241	286	330	534	557	577	584	652	753	759	779	804	940	956	960	961	1094	1360
1709	1818	1944	2142	2279	2432	2532	2634	2642	2709	2976	2977	3044	3050	3051	3064	3119	3157
CAESIUM PLASMA																	
215	239	258	262	615	637	787	865	892	955	957	1011	1067	1157	1171	1277	1352	1755
1975	2366	2701	2733	2735	2842	2897	2970	3034	3136	3142	3144	3145	3147	3148	3151	3157	3158
3162	3163	3164	3166	3167	3171												
COLD PLASMA																	
30	84	98	210	245	259	269	301	302	304	306	367	350	451	554	555	575	645
751	920	955	973	1020	1052	1087	1108	1131	1199	1223	1226	1235	1250	1252	1253	1445	1522
1580	1711	1885	1960	1978	1982	2169	2199	2241	2280	2359	2370	2489	2529	2675	2738	2749	2798
2824	2837	2879	2986	3132	3133	3134	3135	3159									
COLLISIONLESS PLASMA																	
99	105	128	242	281	293	315	349	361	406	426	439	557	574	619	627	657	658
660	694	830	839	841	846	872	903	915	975	1079	1131	1132	1169	1226	1234	1236	1250
1267	1276	1333	1392	1437	1504	1510	1525	1532	1575	1602	1614	1639	1645	1648	1659	1715	1829
1862	1948	2011	2150	2241	2359	2382	2454	2459	2627	2632	2657	2658	2677	2683	2689	2690	2721
2728	2749	2773	2796	2798	2840	2886	2893	2908	2928	2929	2931	2935	2941	2942	2970	3015	3059
3101	3103	3115	3121	3122													
COMBUSTION PLASMA																	
272	524	947	1144	1380	1877	1986	2005	2051	2100	2414	2428	2550	2551	2552	2553	2554	2555
2556	2557	2561	2562	2563	2564	2565	2566	2567	2769	3134	3141						
COSMIC PLASMA																	
68	200	204	214	295	296	297	299	300	301	302	360	460	461	464	621	768	770
771	1015	1033	1166	1317	1436	1467	1670	1690	1697	1718	2208	2274	2276	2416	2468	2515	2637
2950																	
DECAYING PLASMA																	
53	307	382	417	588	602	605	652	938	1157	1257	1350	1723	1877	1894	1904	2103	2200
2293	2305	2362	2387	2634	2701	2893	3142										
DEUTERIUM PLASMA																	
216	220	305	351	503	551	606	749	766	770	893	934	986	1051	1231	1241	1242	1259
1269	1276	1285	1298	1766	1767	1928	2027	2231	2238	2242	2243	2248	2258	2267	2303	2346	2381
2388	2433	2585	2675	2767	2805	2913	2917	3040									
DISCHARGES																	
45	58	75	76	77	126	129	138	150	152	153	190	191	224	238	261	376	378
393	411	511	515	543	568	569	579	589	597	598	599	600	688	715	726	734	737
761	771	819	825	883	890	891	893	896	922	923	955	957	962	990	992	997	1004
1063	1069	1124	1141	1159	1162	1195	1203	1204	1237	1344	1352	1354	1355	1361	1366	1391	1399
1416	1418	1423	1426	1516	1533	1559	1582	1583	1584	1588	1589	1590	1591	1592	1664	1740	1759
1770	1870	1872	1875	1876	1898	1904	1947	1966	1968	1974	1985	1987	1989	1990	1992	1999	2005
2008	2091	2094	2097	2098	2112	2131	2168	2177	2228	2280	2306	2332	2333	2336	2337	2340	2354
2356	2366	2384	2386	2423	2425	2438	2478	2500	2525	2577	2616	2635	2644	2684	2686	2692	2701
2753	2758	2759	2760	2788	2805	2836	2856	2861	3000	3009	3055	3097	3148	3149	3155	3160	3167
3177																	
ELECTRODELESS DISCHARGES																	
38	256	257	732	1412	1424	1746	1773	2135	2423	2678	2825						

Fig.9 (Continued)



## HYS. OF FLUIDS

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ENERGY AND MOMENTUM EQUATIONS FOR DISPARATE-MASS BINARY CASES  
JOHNSON E.A.

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EIBOWITZ L.P.

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CONTINUUM ELECTROSTATIC PROBE THEORY WITH MAGNETIC FIELD  
YOGI K.K. COHEN I.M.

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WAVES IN A HOT UNIAXIAL PLASMA EXCITED BY A CURRENT SURFACE  
MORSE N. GOULD R.W.

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MEASUREMENT OF THE ATTENUATION OF AN ELECTROMAGNETIC WAVE IN A BOUNDED HOT ELECTRON PLASMA  
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ICE J.C.

DL.16/1, 1973, 95-110

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ASSER A.H. THOMPSON W.B.

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YLOR J.B. THOMPSON W.B.

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EFFECT OF VELOCITY DEPENDENCE OF COULOMB LOGARITHM ON THE SOLUTION OF THE FOKKER-PLANCK EQUATION  
DOPER G.E. HERMAN P.T.

DL.16/1, 1973, 122-129

PRIVILEGED EQUILIBRIA OF A COLLISIONLESS HOMOGENEOUS OR INHOMOGENEOUS PLASMA  
MARDI E.

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WAVE AMPLITUDE STABILIZATION OF THE DRIFT INSTABILITY  
MORSE N.

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I-MAXWELLIAN TOROIDAL EQUILIBRIA WITH SPHEROIDAL PLASMA-VACUUM INTERFACES  
ROTT D. MORIKAWA G.K.

DL.16/1, 1973, 145-149

AXATION OF ANISOTROPIC COLLISIONLESS PLASMA  
ASAKI S. KRALL H.A.

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AU S. GRATTON J.

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PRESSURE LIMITATION IN A SIMPLE MODEL OF A TOKAMAK  
S F.A. THOMAS C.L.

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ASYMMETRIC EXCITATION OF LOWER HYBRID INSTABILITIES  
P.K. LEE Y.C.

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PROPAGATION OF AN ION ACOUSTIC WAVE IN A WEAKLY IONIZED PLASMA (IN FRENCH)  
BENOIT J.R. FABRY H. RICHARD M.

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VELOCITY DISTRIBUTION OF THE ELECTRONS IN AN ELECTRON CYCLOTRON RESONANCE PLASMA  
NE D.G. SHOHET J.L.

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ANOMALOUS ION HEATING IN A LASER HEATED PLASMA  
BODNER S.E. CHAPLINE G.F. DEGROOT J.

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MOMENT EQUATIONS AND OHM'S LAW  
GREENE J.M.

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EFFECTS OF NON-MAXWELLIAN ELECTRON ENERGY DISTRIBUTION ON THE ORBITAL LIMITED CURRENT-VOLTAGE CHARACTERISTICS OF CYLINDRICAL AND SPHERICAL POLYCHORONOPOLUS B.

VOL.15/1, 1973, 49-55

ION-SOUND INSTABILITY  
WESSON J.A. SYKES A. LEWIS H.R.

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NONLINEAR MODE-MODE COUPLING OF ALFVEN WAVES IN THE INTER- STELLAR MEDIUM  
FU K.Y.

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RECURSIVE DERIVATION OF DRIFT KINETIC EQUATION  
HAZELTINE R.D.

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HARMONIC GENERATION IN AN INHOMOGENEOUS AND NON-UNIFORMLY MAGNETIZED PLASMA  
CANO R. FIDONE I. SCHWARTZ M.J. ZANFAGNA B.

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A SPECIFIC FEATURE OF SURFACE WAVES AT THE BOUNDARY OF INHOMOGENEOUS PLASMA  
DEMCHENKO V.V. HUSSEIN A.M.

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AN EXACT HELICAL WAVE SOLUTION TO THE EQUATIONS OF MAGNETOHYDRODYNAMICS  
WOLLEY M.L.

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A COVARIANT FORMULATION OF WAVE DISPERSION  
MELROSE D.B.

VOL.15/1, 1973, 107-111

THE COMPLETE ISOTHERMALIZATION BY COLLECTIVE ELECTROMAGNETIC INTERACTIONS OF STRONGLY ANISOTROPIC MAGNETIZED COLLISIONLESS PLASMAS  
CUPERMAN S. SALU Y.

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DYNAMICS OF THE NONLINEAR INTERACTION OF MAGNETOHYDRODYNAMIC WAVES  
KARPLYUK K.S. DRAEVSKII V.N. PAVLENKO V.P.

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THEORY OF ELECTRON CYCLOTRON RESONANCE HEATING. II. LONG TIME AND STOCHASTIC EFFECTS  
LIEBERMANN M.A. LICHTENBERG A.J.

VOL.15/1, 1973, 151-155

EFFECT OF ROTATIONAL TRANSFORM ON THE OHMICALLY HEATED PLASMA IN THE W-II B STELLARATOR  
GRIEGER G. JAENICKE R. JUULMAN C.O. MAHN C. RENNER H. RINGLER H. SCHILLING WOLF G.H. HUGILL J.

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## NUCLEAR FUSION

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A NEW APPROACH TO THE GENERATION OF TOKAMAK FLUID CODES USING THE PL/1 FORKAC INTERPRETER  
ROSEN B. OKABAYASHI M.

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THE EFFECT OF A METALLIC REFLECTOR UPON CYCLOTRON RADIATION  
KRAJCIK R.A.

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BOOTSTRAP CURRENT IN TOKAMAKS WITH NEUTRAL INJECTION  
SIGMAR D.J.

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YIELDS AND TRAPPING OF NEUTRAL DEUTERIUM BEAMS CONTAINING SPI(U) MOLECULES  
BERKNER K.H. MORGAN T.J. PYLE R.V. STEARNS J.W.

VOL.13/1, 1973, 35-45

'VENETIAN-BLIND' DIRECT ENERGY CONVERTER FOR FUSION REACTORS

Fig.10 List of Titles from principal plasma physics journals, circulated for quick current awareness





KEYWORD	FREQUENCY	%
VELOCITY MEASUREMENTS OF WAVES	19	0.058
VIRIAL COEFFICIENTS	1	0.003
VISCOSITY OF PLASMA	30	0.091
VISCOUS FLOW	95	0.288
VLASOV EQUATION	133	0.403
<hr/>		
W		
WAKES	28	0.085
WALL EFFECTS	59	0.179
WAVE PARTICLE INTERACTIONS	63	0.191
WAVE PLASMA INTERACTIONS	106	0.321
WAVE PROPAGATION (GENERAL)	329	0.996
WAVE WAVE INTERACTIONS	121	0.366
WAVEGUIDES	80	0.242
WAVES IN MAGNETIC FIELDS	134	0.406
WHISTLERS	49	0.148
WIENER-HOPF TECHNIQUE	11	0.033
WKB APPROXIMATION	24	0.073
X		
X-RADIATION	77	0.233
XENON PLASMA	38	0.115
XR SPECTROSCOPY	18	0.054
Z		
Z PINCHES	39	0.118
ZEEMAN EFFECT	7	0.021

701 KEYWORDS, 6062 TITLES

Fig.11 Frequency of use of keywords (Sample page)



KEY IS:

= OR

("DRIFT INSTABILITIES"|"DRIFT WAVES")&("TOROIDAL GEOMETRY"  
"TOROIDAL EQUILIBRIUM");

8

YEAR 1973

1731

STABILITY OF A TOROIDAL PLASMA SUBJECT TO NEUTRAL INJECTION  
STIX T.H.

PRINCETON \* MATT-945, 1972,

P11975

\* TOROIDAL GEOMETRY  
INJECTION OF PARTICLES  
STABILITY OF PLASMA  
INHOMOGENEOUS PLASMA  
KELVIN-HELMHOLTZ INSTABILITIES  
\* DRIFT INSTABILITIES  
ACOUSTIC WAVES  
\* DRIFT WAVES  
HEATING OF PLASMA  
INSTABILITY EFFECTS  
MICROINSTABILITIES  
VELOCITY DISTRIBUTIONS  
STABILITY CRITERIA  
MAGNETIC SHEARS

1946

DRIFT INSTABILITIES DISTORTING THE MAGNETIC SURFACES OF  
TOKAMAK-TYPE TOROIDAL SYSTEMS

MIKHAILOVSKY A.B.

NUCLEAR FUSION \* VOL.13/2, 1973, 259-269

\* DRIFT INSTABILITIES  
DIFFUSION IN MAGNETIC FIELDS  
TOKAMAK DEVICES  
ALFVEN WAVES  
MAGNETIC SURFACES  
\* TOROIDAL GEOMETRY  
PRESSURE EFFECTS  
MAGNETO-FLUID DYNAMICS  
KINETIC THEORY  
MAGNETIC SHEARS  
TRANSPORT COEFFICIENTS  
/THEORETICAL/

2942

OBSERVATION OF COLLISIONLESS DRIFT WAVES IN A TOROIDAL HEXAPOLE

NAGASHIMA T.

TAMURA S.

YAMATO H.

ARIZONO S.

OHTSUKA H.

SHIINA T.

YOSHIKAWA M.

MORI S.

PHYS.REV.LETTERS \* VOL.31/2, 1973, 82-86

COLLISIONLESS PLASMA  
LOW-BETA PLASMA  
\* TOROIDAL GEOMETRY  
TOROIDAL DEVICES  
MULTIPOLES  
LOW FREQUENCY INSTABILITIES  
\* DRIFT WAVES  
WAVES IN MAGNETIC FIELDS  
FLUCTUATIONS OF DENSITY  
DISPERSION RELATIONS  
STABILITY OF WAVES  
STABILITY CRITERIA  
/EXPERIMENTAL/

STATISTICS: 35586 TITEL SCANNED, 1132 TITEL TESTED, 14 TITEL FOUND.

Fig.12 Portion of line-printer output from batch search (Search formulation

