

TABLE DES MATIERES

CONTENTS

SECTION VIII

METHODES DE MESURE DES PROPRIETES DES GAZ IONISES.
METHODS OF MEASURING THE PROPERTIES OF IONIZED GASES.

The photo-electric recording of spectral line profiles on a microsecond time-scale. - J. Cooper, J.R. Greig.....	1
Mesures rapides de température ionique. - M. Clément, R. Le Gardeur	7
An absolute light intensity calibration in the far ultraviolet. - J. van Eck, F.J. de Heer	11
Measurements of temperature distribution in an arc between tungsten electrodes in argon. - R.E. Jahn.....	15
Measurement of localized densities in an argon glow discharge. - W.C. Eppers, Jr, R.B. Morrow.....	19
A spectroscopic method allowing spatial resolution. - Richard T. Schneider	23
Measurement of magnetic fields in a plasma using the Zeeman-effect. - K. Hübner.....	31
Time-resolved interferometric measurements of emission line profiles from transient discharges. - N.J. Peacock ..	35
Techniques spectroscopiques de résolution temporelle pour l'étude d'une décharge θ-pinch rapide. - A. De Angelis, S. Martellucci, G. Tondello	41
Current-voltage characteristics of high temperature gases at high pressures. - J.F. Armstrong, D.W. George, L.P. Heffernan, H.K. Messerle.....	47
A double-probe technique for determining electron velocity distributions. - F.W. Crawford, A. Garscadden, R.S. Palmer.....	53
Perturbation of a plasma by a probe. - J.F. Waymouth	57
Sonde de Langmuir en champ magnétique : courant électronique. - J. Virmont.....	63
Mesure de la densité et de la température électroniques en présence de champ magnétique. - H. Doucet, H. Lamain.	67
The energy spectrometer as a tool for plasma diagnosis. - H. Heil	71
Determination of electron density and energy distribution in a very hot electron plasma. - W.B. Ard, A.C. England, R.A. Dandl, R.J. Kerr.....	75
Application of photoelectric interference spectroscopy and image intensifiers to plasma diagnosis. - D.J. Bradley, B. Bates, C.O.L. Juulman	79
Light amplification of high-speed images. - A. Steinhausen	85
A probe for the interplanetary plasma. - K.W. Ogilvie, N. McIlwraith, H.J. Zwally, T.D. Wilkerson.....	91
Experimental detection of plasma turbulence by shadowgraph technique. - U. Ascoli-Bartoli, S. Martellucci, E. Mazzucato	97

Development of Schlieren technique in plasma diagnostics by using a pulsed ruby-laser. - U. Ascoli-Bartoli, S. Martellucci, E. Mazzucato.....	105
Measurements of large-angle scattering of laser radiation from d.c. plasmas. - E. Thompson, G. Fiocco	111
Magneto rotation of ruby laser light for determination of plasma electron density. - P.H. Grassmann, H. Wulff	113
Local determination of plasma parameters in a θ -pinch plasma by light scattering experiments. - E. Fünfer, W.H. Kegel, B. Kronast, H.J. Kunze	119
Noise processes in probes immersed in gas discharges. - A. van der Ziel	123
Finite transit time effect in the radio-frequency probe. - Yoshi H. Ichikawa	125
Measurements with a "wide-band probe". - H.M. Mayer.....	129
Resonance probe. - H. Ikegami, K. Takayama, S. Hagiwara, S. Kojima	135
Untersuchungen mit der HF-Plasma-Resonanzsonde an einem Caesium-Kontaktionisations-Plasma. - G. Peter, G. Müller, H.H. Rabben	147
Far infra-red density measurements. - D.T. Llewellyn-Jones, S.C. Brown, G. Bekefi	157
Measurements at 33 kMc/s of Doppler frequency shift. - L. Th. M. Ornstein, C.A.J. Hugenholtz, H.A. van der laan	161
Microwave measurement of electron density profiles in plasmas. - G.E. Stewart, Z.A. Kaprielian.....	165
Nouvelles techniques millimétriques et sub-millimétriques appliquées au diagnostic micro-ondes des machines à plasma dense. - P.E. Faugeras, R. Papoula, B. Zanfagna	173
Microwave reflection method for dense plasmas diagnostics. - Susumu Takeda, Takashige Tsukishima	177
Microwave diagnostics of high speed plasma flows. - R.C. Warder, Jr., W.L. Nighan, M.E. Brodwin, Ali Bulent Cambel.....	181
Plasma investigation using fast particles beams as probes. - L.I. Krupnik, N.G. Shulika.....	185
A microwave dual interferometer for plasma diagnostic. - G. Lisitano	199

SECTION IX

SOURCES D'IONS ET GENERATEURS DE PLASMA OU DE FAISCEAUX NEUTRALISES.
ION SOURCES, AND PLASMA OR NEUTRALIZED BEAM GENERATORS.

Etude du bilan énergétique d'une décharge réflex. - R. Basile, J.M. Lagrange.....	203
Triggered low-voltage sources for positive ions. - R.E. Honig, S.S. Glass, J.R. Woolston	209
Acceleration of plasma by a traveling wave. - W. Bieger, P. Gräff, H. Gresser, P. Noll, H. Tuczak	217
An intense highly ionized plasma source. - J.S. Luce, J.F. Detko, D.C. Gates, D.L. Lafferty	223
A collisionless plasma for wave propagation studies. - J.H. Malmberg, N.W. Carlson, C.B. Wharton, W.E. Drummond	229

Acceleration of plasma by displacement currents resulting from ionization. - R.H. Lovberg	235
Experiment on a coaxial electromagnetic shock tube. - J.A. Bakken, K. Dysthe, J. Falnes	241
Etude de la neutralisation d'un faisceau d'ions par injection d'électrons. - J.F. Bonnal, J. Caron, C. Manus, G. Spiess.....	245
Production and mass-spectrometry of multiaatomic-ion beams with charge-to-mass ratio 0.1 Coul/Kg to 10^7 Coul/Kg Charles D. Hendricks, James J. Hogan	249
Plasma guns investigation. - A.A. Kalmykov, A.D. Timofeev, Yu.I. Pankrat'ev, V.I. Tereshin, S.A. Trubchaninov, M.G. Nozdrachev, V.A. Naboka, B.G. Safronov	255
Structure of plasmoids produced by a coaxial injector. - G.N. Aretov, V.S. Komelkov, M.I. Pergament, S.S. Tserevitinov, V.I. Vasiliev.....	265
The source of hydrogen ions. - A.L. Groshev, V.V. Kuznecov, N.P. Malachov, N.N. Semashko	273
SECTION X	

ONDES DE CHOC	
SHOCK WAVES	

Precursors ahead of pressure driven shock waves in argon. - H.D. Weymann, L.B. Holmes.....	281
A microwave study of the precursor effect. - J.M.P. Quinn, H.A.B. Bodin	287
The production of hydrogenous plasmas by hydromagnetic ionizing fronts. - M.H. Brennan, L.C. Robinson	293
On the dissociation of hydrogen behind a magnetically driven shock. - C.T. Chang	299
Experiments on self-ionizing shock waves in a magnetic field. - Y. Nakagawa, K.B. Earnshaw	303
Measurements of electron concentration and electron temperature during the attainment of equilibrium in shock ionized argon. - T.I. McLaren, J.N. Fox, R.M. Hobson	311
Hall e.m.f. measurements in shock heated argon. - P.R. Smy, H.S. Driver.....	319
Microwave measurements on shock waves in air. - N. Dvir, W. Low	325
Application of microwaves in shock waves investigations. - J.B. Gerardo, L. Goldstein, C.D. Hendricks,Jr	331
Some experimental studies of collisions of magnetically driven shocks. - C.T. Chang, G.S. Hansen, M. Popovic....	339
Measurement of the current density behind the front of a magnetically driven cylindric shockwave. - O.E. Berge, W. Bötticher, G. Kleist, U. Kogelschatz.....	345
Ondes de choc et jets de plasma dans les tubes à soufflage magnétique. - M. Cloupeau.....	349
The structure of the plasma cloud in an electro-magnetically driven shock tube. - G. Brederlow.....	355
Luminosity structures of plasmas in electromagnetic shock tubes. - A.J. Barnard, G.D. Cormack	361
Die Strömung hinter der Stossfront in einem T-Rohr. - P. Jeanmaire	365

Large amplitude wave motion in thermal plasmas. - P.L. Auer	369
Ondes de choc dans un plasma de faible densité. - J.L. Bobin	373
Vérification expérimentale de l'équation d'état de l'hydrogène au moyen d'un tube de choc. - A. Brin, F. Delobeau, J.P. Plantevin, P. Veyrié.....	377
Magnetohydrodynamic shock structure in a partially ionized gas. - E.T. Gerry, R.M. Patrick, H.E. Petschek	389
Mikrowellenmessungen an T-Rohren. - Horst Klingenberg	397
 SECTION XI -----	
ÉCOULEMENT MAGNETOHYDRODYNAMIQUES DES GAZ IONISES.	
MAGNETOHYDRODYNAMIC FLOW OF IONIZED GASES.	

Plasma vortices. - W.H. Bostick	405
Pénétration d'un faisceau neutralisé ions-électrons dans une barrière magnétique. - J.M. Dolique.....	415
Tentative de traversée d'un champ magnétique transverse par un faisceau de protons rapides neutralisé par injection d'électrons. - R.J. Warnecke Jr, G. Vincent, A. Ben Sussan.....	419
Plane Couette flow in radiation magnetogasdynamics. - S.I. Pai	434
Electrode and interaction processes in magnetohydrodynamic systems. - J.A. Nation, D. Medhurst, S.W. Twaites..	437
Experimental study of induction coupled magnetoplasmadynamic channel flow . - K.H. Fischbeck, W.D. Jackson, W.M. Gottschalk	445
The interaction of a high velocity ionized plasma with a tranverse magnetic field. - T.I. McLaren, J.N. Fox, R.M. Hobson.....	453
The flow of high energy plasma in a magnetic guide field. - D.E.T.F. Ashby	465
Evolution d'une bouffée de plasma dans un champ magnétique longitudinal. - J. Jacquinot, C. Leloup, J.P. Poffé, F. Waelbroeck	469
The acceleration of a plasma by an electric field using the Hall effect. - M.G. Haines.....	477
Interaction of a plasma source with a uniform magnetic field. - C.M. Tchen.....	481
Streaming of a plasma in an inhomogeneous magnetic field. - E.T. Karlson	485
Instabilité de Rayleigh-Taylor sous l'effet de forces électromagnétiques. - A. Lemaire	487
Plasma flow into a perpendicular magnetic field. - F.R. Scott, N.A. Krall, R.G. Tuckfield, Jr.....	491
Hall-effect in a cylindrical plasma column. - G. Ecker, H. Kanne.....	497
Experiments and theory for hall currents in crossed electric and magnetic fields. - R. Hess, P. Brockman, W. Grossmann, J. Burlock	501
Convective instability of plasma flow across a magnetic field. - H.E. Wilhelm.....	505
Plasma turbulence due to the ionization instability in a strong magnetic field. - E.P. Velikchov, A.M. Dychne	511

SECTION XII

CONVERSION THERMO-IONIQUE D'ENERGIE THERMIQUE EN ENERGIE ELECTRIQUE
THERMIONIC CONVERSION

Ionisation en volume dans les convertisseurs thermoioniques à gaz. - J. Bensimon.....	513
Investigations on the low voltage arc mode in thermionic diodes. - W. Bloss, W. Krezdon.....	521
Einfluß einer CsF-Atmosphäre auf die Elektronenemission von Wolfram. - A. Jester, A. Minor.....	527
A work function study of the evaporation from uranium carbide. - B.H. Blott, B.J. Hopkins	533
Direct energy conversion with a vapour stream ionized by nuclear fission products. - S. Klein	537
Analysis of the I - V curve of a high-pressure-Cs-diode. - J. Bohdansky, R. Langpape.....	543

Errata.....	547
Index Alphabétique des auteurs } Alphabetical authors' index }	551