

CONTENTS OF VOLUME 1

Production and heating of plasma by microwaves in fusion devices

<i>L.Rebuffi</i>	Conceptual design of an electron cyclotron wave system for ITER	3
<i>J.-G.Wegrowe</i>	Critical issues in the application of lower hybrid waves to the next step device	26
<i>G.M.Batanov</i>	Peculiarities and problems associated with the electron - cyclotron heating (ECH) of plasma in stellarators	40
<i>J.Lohr, R.A.James, G.Giruzzi, Y.Gorelov, J.DeHaas, R.W.Harvey, T.C.Luce, K.Matsuda, C.P.Moeller, C.C.Petty, R.Prater</i>	Comparison between the electron cyclotron current drive experiments on DIII-D and predictions for T-10	58
<i>S.Tanaka</i>	Electron cyclotron current drive and heating in WT-3 tokamak	73
<i>R.Pozzoli, D.Farina, A.Mennella, D.Ronzio</i>	Absorption of a strong EC wave in a plasma	88
<i>G.Giruzzi</i>	Fokker-Planck modelling of RF heating and current drive	107
<i>E.V.Suvorov, M.D.Tokman</i>	ECR break-down in magnetic traps	127
<i>L.Argenti, A.Bruschi, S.Cirant, F.De Luca, G.Gorini, G.Granucci, A.Jacchia, L.Maria, P.Mantica, S.Nowak, A.Simonetto, G.Solari</i>	The design of an ECRH experiment at 140 GHz, 1.6 MW, on FTU tokamak	145
<i>T.Saito, Y.Kiwamoto, K.Kurihara, T.Honda, A.Kasugai, T.Cho, K.Ishii, I.Katsuma, A.Mase, Y.Yamaguchi, S.Miyoshi</i>	ECR heating effect on plasma confinement in GAMMA 10	165
<i>S.Kubo, H.Idei, M.Hosokawa, Y.Takita and CHS group</i>	Plasma production and heating experiments by ECH in CHS	180
<i>M.Sato, H.Zuchi, S.Sudo, F.Sano, M.Iima, K.Kobayashi, T.Obiki, M.Nakajima, S.Kubo, M.Hosokawa, K.Ohkubo, T.Kuroda, O.Motojima, K.Sakamoto, T.Nagashima, W.Kasperek, M.Thumm</i>	ECRH heating of heliotron-E with 106 GHz gyrotron	185
<i>A.N.Arbusov, N.I.Vinogradov, S.G.Goncharov, E.R.Its, S.V.Lebedev, K.A.Podushnikova, G.T.Razdobarin, V.V.Rozhdestvenskii, N.V.Sakharov, K.G.Shakhovets, O.V.Fedorov</i>	Plasma - wave interaction in tokamak TUMAN - 3 at the second ECR harmonic	191

<i>F.Leuterer, F.Soldner, ASDEX-Team, LH-Team, NI-Team</i>	Lower hybrid experiments at 2.45 GHz in ASDEX	196
<i>A.D.Pilya, A.R.Esterkin, Yu.F.Baranov</i>	Propagation of weakly-damped lower-hybrid waves in toroidal plasmas	208
<i>N.F.Kovalyov, M.I.Petelin, E.V.Suvorov, S.E.Fil'chenkov</i>	Quasi - optical grill for excitation of lower - hybrid wave in a plasma	223
<i>Eh.D.Andryukhina, K.S.Dyabilin, O.I.Fedyanin</i>	Efficiency of ECR wave absorption in the L-2 stellarator	235
<i>M.D.Tokman</i>	On electron-cyclotron start-up in a tokamak	241
<i>L.Kuznetsova</i>	Numerical simulation of current drive by EC-waves in the tokamaks T-10, T-15, ITER	246
<i>M.M.Larionov</i>	Formation of energy distribution of electrons under electron cyclotron heating in a tokamak	252
<i>D.Farina, R.Pozzoli</i>	Nonlinear plasma heating at the electron cyclotron harmonics	258
RF discharge processes in wave fields		
<i>A.G.Litvak</i>	Nonlinear dynamics of freely localized gas discharge in microwave beams	267
<i>M.Lofgren, D.Anderson, H.Bonder, H.Hamnen, M.Lisak</i>	Experimental and theoretical investigations of breakdown phenomena in microwave TR-switches	287
<i>A.L.Vikharev</i>	Gas discharge in a superstrong microwave field	306
<i>V.B.Gil'denburg, A.V.Kim, V.A.Krupnov, V.E.Semenov, A.M.Sergeev, N.A.Zharova</i>	Frequency self-upshifting of ionizing electromagnetic pulse	324
<i>S.F.Lirin, V.E.Semenov</i>	The breakdown in rarefied gas in inhomogenous superstrong electromagnetic fields	344
<i>M.Rader, F.Dyer, I.Alexeff</i>	Microwave frequency upshift using plasmas	350
<i>S.I.Gritsinin, A.V.Kim, I.A.Kossyi, N.M.Tarasova</i>	Ionizing collapse of high frequency plasma filament in dense gas	354
<i>A.M.Devyatov, A.A.Kuzovnikov, V.V.Lodinev, V.M.Shibkov, L.V.Shibkova, V.V.Zlobin</i>	The free localized microwave discharge in air in the focused electromagnetic beam	374

<i>E.Ya.Kogan, B.U.Kusin</i>	
Mechanisms of freely-localized SHF-discharge structure formation in a high pressure gas	394
<i>V.G.Brovkin, Yu.F.Kolesnichenko</i>	
Structurization in stimulated microwave discharge	401
<i>N.Yu.Babaeva, A.Kh.Mnatsakanyan, G.V.Naidis</i>	
Modeling of impulse discharge in microwave fields in nitrogen	407
<i>N.A.Bogatov, M.S.Gitlin, S.V.Golubev, V.G.Zorin, S.V.Razin</i>	
Investigation of instability and nonlinearity mechanisms of a non-self-sustained discharge in a microwave beam	413
<i>G.A.Ascaryan, G.M.Batanov, N.K.Berezetskaya, A.A.Doroфеук, V.A.Ivanov, I.A.Kossyi</i>	
Detection of superpower microwave radiation	419
<i>I.N.Inovenkov, A.V.Kim, V.E.Semenov, A.E.Chukhin</i>	
Nonlinear dynamics of a space localized discharge in the field of a travelling electromagnetic wave in the atmosphere	423
<i>L.Ya.Higer, Kh.V.Valiev</i>	
On the stationary microwave discharge induced by the infinite cophased current	429
<i>V.I.Kolpakov, L.V.Norinskii, V.S.Rogov</i>	
The effect of dynamic channeling of microwave radiation by extended plasma formations	433
<i>M.Moisan, C.Barbeau, R.Claude, C.M.Ferreira, J.Margot-Chaker, J.Paraszczak, A.B.Sa, G.Sauve, M.R.Wertheimer</i>	
RF or microwave plasma reactors? Factors determining the optimum frequency of operation	439
<i>N.L.Aleksandrov, A.M.Konchakov, I.V.Kochetov, A.P.Napartovich</i>	
Effect of electromagnetic wave on the upper atmosphere plasmas with halocarbons	458
<i>A.N.Stepanov, V.V.Yazenkov</i>	
The measurement of ozone concentration produced by the pulsed microwave discharge	464
<i>A.L.Vicharev, O.A.Ivanov, A.V.Kim, A.G.Litvak</i>	
Ultraviolet radiation of artificial ionised layer	468
<i>J.Margot-Chaker, M.Moisan, J.Teichmann</i>	
A new approach to the development of ECR plasma sources	473
<i>V.V.Andreev, K.S.Golovanivsky, S.Colunga</i>	
Long-living relativistic electron plasma produced at gyromagnetic autoresonance in plasma synchrotron-accumulator GYRAC-D	479
<i>S.V.Golubev, V.G.Zorin, T.N.Zorina, S.V.Razin</i>	
ECR sources of multiply charged ions, involving millimeter- wave gyrotron	485