# **Table of Contents**

Preface	IA
Programme Committee	V
Local Organising Committee	7
Acknowledgments	V
Overview of contributed papers	VII - X
Contributed papers	
Alfvén and low frequency	
Ion Cyclotron frequency	:
Hybrid (upper and lower) frequency	12
Electron Cyclotron frequency	20:
Author index	XI - XIV

# Overview of the contributed papers

Title	First Author	Page
Alfvén wave driving forces, plasma flow, and current drive in tokamak plasmas	Elfimov, A.G.	1
D( <sup>3</sup> He) heating in Alcator C-Mod	Wukitch, S.J.	5
Variation of the sawtooth activity with ICRF in ASDEX Upgrade	Noterdaeme, JM.	9
Status and planning for ICRF at ASDEX Upgrade	Wesner, F.	13
A wave field model for plasma geometries close to circular cylinders	Hellsten, T.	17
Characteristics of ICRF physics on KSTAR plasma	Hong, B.G.	21
The Ion Cyclotron system for the KSTAR tokamak	Swain, D.W.	25
JET plasma performance in diverse ICRH DT scenarios	Bhatnagar, V.P.	29
Variational evaluation of the scattering matrix of array antennas for Ion Cyclotron heating and current drive in tokamaks	Brambilla, M.	33
Optimization of the Ignitor strap antenna using a new self-consistent, integral-equation technique	Maggiora, R.	37
Spectral perturbation series approach for the analysis of antenna-plasma coupling in ICRH	Riccitelli, M.	41
Computation of self-consistent currents on ICRH antenna taking into account magnetic shielding	Pécoul, S.	45
Prototype design of the ITER ICRF vacuum transmission line dielectric window	Heikinheimo, L.	49
New power gridded tube in fusion applications	Boussaton, A.	53
1000 sec Ion Cyclotron resonance heating system for SST1 tokamak	Mukherjee, A.	57
Perspectives gained from ICRF physics studies on TFTR	Phillips, C.K.	61
The Ion Bernstein Wave experiment on FTU	Cesario, R.	65
Self-consistent modelling of ICRF heating in tokamak geometry: (1) Maxwell-Vlasov modelling	Lamalle, P.U.	69
Self-consistent modelling of ICRF heating in tokamak geometry: (2) Fokker-Planck modelling	Van Eester, D.	73
Study of Landau interaction between electrons and r.f. field, incorporating relativistic effects	Louis, Y.	77

# Overview of the contributed papers

# Overview of the contributed papers

Title	First Author	Page	Title	First Author	Page
Inductive near-field effect on plasma dynamics of unshielded fast wave antenna	Faulconer, D.W.	81	Effects of LHCD on sawtooth oscillations in FTU	Tudisco, O.	153
A study of ICRF plasma production in TEXTOR-94	Lyssoivan, A.I.	85	High density operation in the FTU tokamak with LH and ECRH	Pericoli-Ridolfini, V.	157
and scenarios for tokamak start-up and wall conditioning applications			Fast current ramp up in the LHH experiment at FT-2 tokamak and improved core confinement study	Lashkul, S.I.	161
The release and concentration of tungsten in TEXTOR-94: a comparison of ICRF and NBI heating	Rapp, J.	89	The plasma boundary effect study on absorption of Lower Hybrid waves and plasma improved confinement in FT-2 tokamak	Lashkul, S.I.	165
Propagation and absorption of the fast wave in deuterium-tritium plasmas with alpha-particles	Lashmore-Davies, C.N.	93	RF experiments on JT-60U	Ide, S.	169
Design of the HHFW heating and current drive system for NSTX	Ryan, P.M.	97	Simulation of a Lower Hybrid grill mouth by coupling SWAN and particle-in-cell code	Rantamäki, K.M.	173
Heating and current drive on NSTX and HHFW experiments on CDX-U	Wilson, J.R.	101	Nonlinear Upper Hybrid wave packet dynamics and robust soliton formation	Davydova, T.A.	177
ICRH coupling studies and wideband matching in ELMy plasmas on JET	Simon, M.	105	Nonlinear theory of lower-hybrid current drive	Popel, S.I.	181
Analysis of JET ICRF heating scenarios with	Eriksson, LG.	109	Interaction of ions with a spectrum of electrostatic waves	Ram, A.K.	185
relevance for a reactor  ICRH-induced spatial transport of resonating ions	Mantsinen, M.	113	Path-sum solutions to Fokker-Planck equations for RF heating and current drive	Belo, J.H.	189
in the presence of an asymmetrical toroidal wave number spectrum	mantsmen, m.	113	Analytical studies of electrostatic lower-hybrid wave propagation in plasmas with magnetic ripple	Ferreira, J.S.	193
Combined experiment between ICRH and LHCD on HT-6M tokamak	Yang, X.K.	117	Analysis of dispersion of lower hybrid waves in JET plasmas containing high energy anisotropic	Testa, D.	197
1000 second Lower Hybrid current drive system for SST1 tokamak	Sharma, P.K.	121	protons	D 1 D	201
Design of the Lower Hybrid heating and current	Froissard, P.	125	Limits of validity of the quasilinear approximation in LHH & CD modeling	Pavlo, P.	201
drive system for ITER EDA			ECRH at 140 GHz on the FTU tokamak	Cirant, S.	205
Progress towards long pulse LH assisted operation with the ergodic divertor on Tore Supra	Goniche, M.	129	Electron Cyclotron heating and current drive control using frequency tuning	Heikkinen, J.A.	209
New Tore Supra launcher for LHCD	Bibet, P.	133	H-mode and confinement studies with ECRH on	Morris, A.W.	213
Unequally spaced waveguide array for LHCD	Bibet, P.	137	COMPASS-D	,	
Measurements of LH power deposition profile by fast electron bremsstrahlung tomography on Tore Supra	Imbeaux, F.	141	High- $\!\beta$ plasmas on COMPASS-D with ECRH and LHCD	Valovič, M.	217
Quasi-optical grill structures for TdeV, Ignitor and Tore Supra tokamaks	Preinhaelter, J.	145	Electron cyclotron heating experiments on the DIII- D tokamak	Prater, R.	221
Enhancement of electron acceleration in front of LH grills by random field effects.	Petržílka V.	149	Microwave Effects in start-up phase of HT-7 tokamak discharge	Shen, W.	225

# Overview of the contributed papers

Title	First Author	Page
ECRH on MAST	Lloyd, B.	229
ECRH experiments in Asdex Upgrade	Leuterer, F.	233
Coupling to electron Bernstein waves in tokamaks	Bers, A.	237
Relativistic Electron Cyclotron ray tracing	Le Clair, G.	241
Influence of polarisation in ECCD experiments in TCV	Goodman, T.P.	245
Central relaxation phenomena during Electron Cyclotron heating in TCV	Pietrzyk, Z.A.	249
Preliminary confinement studies during ECRH in TCV	Pochelon, A.	253
Recent activities with CPI gyrotrons for ECRH	Jory, H.	257
ECRH system for tokamak ADITYA	Bora, D.	261
Propagation of paraxial Gaussian beams in anisotropic plasmas.	Pereverzev, G.V.	265
ECCD experiments in RTP	Polman, R.W.	269
Softening of density limit disruption by injection of EC waves	Salzedas, F.	273
Quasi-optical calculations of Electron Cyclotron current drive for ITER	Ramponi, G.	277
Electron Cyclotron and Lower Hybrid heating and current drive experiments on TdeV	Demers, Y.	281
TJ-II status and its heating systems	Rodríguez-Rodrigo, L.	285