

CONTENTS

Welcome Address.....	ix
Group Photograph.....	xii

INVITED PAPERS

Electrostatic Dynamo in Reversed Field Pinch Plasmas: Simple Common Fundamental Nature of Laminar and Turbulent Regimes	3
D. Bonfiglio, S. Cappello, and D. F. Escande	
Fast Particle Interaction with Waves in Fusion Plasmas	15
B. Breizman	
Monte-Carlo Simulation of High Harmonic Fast Wave Heating of Neutral Beam Ions and Effects on MHD Stability: Validation with Experiments.....	27
V. S. Chan, A. D. Turnbull, M. Choi, M. S. Chu, and L. L. Lao	
Modelling the Effect of Toroidal Plasma Rotation on Magnetohydrodynamic Instabilities in MAST	39
I. T. Chapman, S. Saarelma, T. C. Hender, S. E. Sharapov, G. T. A. Huysmans, A. B. Mikhailovskii, H. Meyer, A. Kirk, and H. R. Wilson	
Turbulent Transport of Energetic Ions	51
T. Dannert, T. Hauff, F. Jenko, and S. Günter	
Hamiltonian Description of Low Frequency Waves Propagation and Absorption in Magnetically Confined Plasmas.....	65
R. J. Dumont and L.-G. Eriksson	
Quasi–Optical Propagation of an EC Gaussian Beam, Absorption and Current Drive in Tokamaks	77
D. Farina	
Peeling Mode Relaxation ELM Model.....	87
C. G. Gimblett	
GYSELA, a Full-\mathcal{f} Global Gyrokinetic Semi-Lagrangian Code for ITG Turbulence Simulations	100
V. Grandgirard, Y. Sarazin, X. Garbet, G. Dif-Pradalier, Ph. Ghendrih, N. Crouseilles, G. Latu, E. Sonnendrücker, N. Besse, and P. Bertrand	
Spatial and Spectral Evolution of Turbulence Spectra	112
Ö. D. Gürcan, P. H. Diamond, and T. S. Hahm	
Ion and Electron Dynamics in Nonlinear PIC Simulations	124
S. Jolliet, A. Bottino, P. Angelino, T. M. Tran, B. F. McMillan, R. Hatzky, A. G. Peeters, E. Poli, O. Sauter, and L. Villard	
Global Linear Gyrokinetic Simulations for Stellarator and Axisymmetric Equilibria	136
R. Kleiber	
Kinetic Properties of Alfvén Modes in Tokamak Plasmas	147
Ph. Lauber, S. Günter, M. Brüdgam, A. Könies, S. D. Pinches, and ASDEX-Upgrade Team	

Direct Numerical Simulations of Nonlinear Evolution of MHD Instability in LHD	157
H. Miura, N. Nakajima, T. Hayashi, and M. Okamoto	
Radiative Plasmas at the Edge and Their Basic Properties	169
D. Kh. Morozov	
Advanced Methods in Global Gyrokinetic Full f Particle Simulation of Tokamak Transport	181
F. Ogando, J. A. Heikkinen, S. Henriksson, S. J. Janhunen, T. P. Kiviniemi, and S. Leerink	
Fine-Scale Zonal Flow Suppression of Electron Temperature Gradient Turbulence	193
S. E. Parker, J. J. Kohut, Y. Chen, Z. Lin, F. L. Hinton, and W. W. Lee	
Tokamak Equilibria with Toroidal Current Reversal: Properties and Computational Issues	204
P. Rodrigues and J. P. S. Bizarro	
Electron Bernstein Waves in Spherical Torus Plasmas	215
A. N. Saveliev	
Zonal Flows: Comparisons of Basic Experiments and Theories	228
A. K. Sen, V. Sokolov, X. Wei, and K. Avinash	
What Are the Limitations of Braginskii's Fluid Equations and Hazeltine's Drift Kinetic Equation?	238
A. N. Simakov and P. J. Catto	
Interaction of Fast Particles and Alfvén Modes in Burning Plasmas	250
G. Vlad, S. Briguglio, G. Fogaccia, and F. Zonca	
Gyrokinetic-Vlasov Simulations of the Ion Temperature Gradient Turbulence in Tokamak and Helical Systems	264
T.-H. Watanabe, H. Sugama, and S. Ferrando i Margalef	

CONTRIBUTED PAPERS

Comparison of Analytical Models for Zonal Flow Generation in Ion-Temperature-Gradient Mode Turbulence	277
J. Anderson, K. Miki, K. Uzawa, J. Li, and Y. Kishimoto	
On the ECCD Current Density Profile with Particle Diffusion in eITBs and Its Impact on the q-Profile	283
E. Asp, O. Sauter, S. Coda, E. Fable, T. P. Goodman, G. Turri, V. S. Uditsev, and C. Zucca	
Analysis of the Validity of the Asymptotic Techniques in the Lower Hybrid Wave Equation Solution for Reactor Applications	292
A. Cardinali, L. Morini, and F. Zonca	
Kinetic and Fluid Ballooning Stability with Anisotropic Energetic Electron Layers	300
W. A. Cooper	
Electromagnetic Perturbations in the Reconnecting Current Sheet in MRX	306
S. Dorfman, H. Ji, M. Yamada, Y. Ren, S. Gerhardt, R. Kulsrud, B. McGeehan, and Y. Wang	

Gyrokinetic Treatment of GAE Modes in Cylindrical Geometry	312
D. Eremin	
Theoretical Study of Particle Transport in Electron Internal Transport Barriers in TCV	318
E. Fable, O. Sauter, A. Marinoni, C. Zucca, and the TCV Team	
Generation of Geodesic Acoustic Modes in ITG Turbulence	324
G. L. Falchetto, X. Garbet, M. Ottaviani, and A. Smolyakov	
Simulations of Zonal Flow Damping and Electron Bernstein Waves in Helical Systems	330
S. Ferrando i Margalef, H. Sugama, T.-H. Watanabe, Y. Yoshimura, C. Suzuki, and A. Shimizu	
Entropy Production Rate as a Constraint for Collisionless Fluid Closures	336
E. Fleurence, Y. Sarazin, X. Garbet, G. Dif-Pradalier, Ph. Ghendrih, V. Grandgirard, and M. Ottaviani	
Coherent Modes in the Acoustic Frequency Range in Tokamaks	342
X. Garbet, G. Falchetto, M. Ottaviani, R. Sabot, A. Sirinelli, and A. Smolyakov	
Modelling ICCD Experiments for Sawtooth Control in JET.....	350
J. P. Graves, W. A. Cooper, S. Coda, L.-G. Eriksson, T. Johnson, and the JET-EFDA Contributors	
A General MHD Formulation for Plasmas with Flow and Resistive Walls.....	356
L. Guazzotto, J. P. Freidberg, and R. Betti	
A Model Collision Operator for Orbit Averaged Monte Carlo Codes	362
T. Hellsten and T. Johnson	
Development of a Grid-Based Gyro-Kinetic Simulation Code.....	368
X. Lapillonne, M. Brunetti, S. Brunner, and T.-M. Tran	
Effects of a Sheared Ion Velocity on the Linear Stability of ITG Modes	374
M. Lontano, M. C. Varischetti, and E. Lazzaro	
Three-Dimensional Warm Plasma Simulations for Low-Frequency Waves	382
N. Mellet, P. Popovich, W. A. Cooper, L. Villard, and S. Brunner	
Quasi-Isodynamic Configuration with $N=12$ and High β	388
M. I. Mikhailov, M. Yu. Isaev, A. A. Subbotin, V. D. Shafranov, C. Nührenberg, J. Nührenberg, R. Zille, and A. Cooper	
Global Linear Gyrokinetic Particle-in-Cell Simulations of Fine-Scale Modes in a Tokamak	394
A. Mishchenko, R. Hatzky, and A. Könies	
PIC Simulations of Microturbulence in the Presence of a Magnetic Island	400
E. Poli, A. Bottino, A. G. Peeters, and O. Sauter	
Calculation of Stochasticity from Topological Noise in the DIII-D Shot 115467 3000 ms	406
A. Punjabi, H. Ali, T. Evans, and A. Boozer	

Gyrokinetic and Gyrofluid Models for Zonal Flow Dynamics in Ion and Electron Temperature Gradient Turbulence.....	412
H. Sugama, T.-H. Watanabe, and S. Ferrando i Margalef	
Towards More Realistic Ion Cyclotron Resonance Heating Fokker-Planck Modelling.....	418
D. van Eester	
Plasma Shape Effects on Geodesic Acoustic Oscillations	424
L. Villard, P. Angelino, A. Bottino, R. Hatzky, S. Jollet, B. F. McMillan, O. Sauter, and T. M. Tran	
Equilibrium Analysis of Tokamak Discharges with Toroidal Variation	430
W. Zwingmann, M. Bécoulet, Ph. Moreau, and E. Nardon	
List of Participants.....	437
Author Index.....	447