

Page 321–326 _____ Contents

Page 327–328 _____ Title, Committee and Preface

ORIGINAL PAPERS

Effects of plasma edge/core coupling

- Page 329–340 _____ – Invited paper –
J.N. Brooks, A. Hassanein, A. Koniges, P.S. Krstic, T.D. Rognlien, T. Sizyuk,
V. Sizyuk, and D.P. Stotler
Scientific and Computational Challenges in Coupled Plasma
Edge/Plasma-Material Interactions for Fusion Tokamaks
- Page 341–346 _____ I. Ivanova-Stanik, F. Koechl, I. Voitsekhovitch, G. Telesca, R. Zagórski, and the
EU-ITM ITER Scenario Modelling group
Integrated Core-SOL Simulations of ITER H-Mode Scenarios with
Different Pedestal Density
- Page 347–352 _____ G. Telesca, I. Ivanova-Stanik, R. Zagórski, S. Brezinsek, C. Giroud, G. Van Oost,
and JET EFDA contributors
Numerical Scaling with the COREDIV Code of JET Discharges with
the ITER-Like Wall

- Page **353–357** — Y. Marandet, I. Ivanova-Stanik, R. Zagórski, C. Bourdelle, J. Bucalossi, H. Bufferand, G. Ciraolo, and E. Tsitrone
Self-Consistent COREDIV Modelling of WEST Plasma Scenarios
- Page **358–362** — R. Stankiewicz and W. Stępniewski
Limit on Reduction of the Power Load to Target Plates for DEMO Reactor
- Page **363–367** — M. Yagi, A. Matsuyama, N. Miyato, and T. Takizuka
Simulation Study of Nonlocal Transport from Edge to Core in Tokamak Plasmas
- Page **368–372** — A.S. Bykov, V.Yu. Sergeev, and B.V. Kuteev
A Simple Hybrid Model for SOL, Pedestal and Core Tokamak Plasmas

Validation of edge plasma theories and novel solvers

- Page **373–377** — A. Paredes, E. Serre, F. Schwander, Ph. Ghendrih, and P. Tamain
Numerical Fluid Modelling of the Plasma Edge Response to a 3D Object and Application to Mach Probe Measurements
- Page **378–382** — H. Bufferand, J. Bucalossi, G. Ciraolo, N. Fedorczak, P. Ghendrih, R. Leybros, Y. Marandet, E. Serre, and P. Tamain
Density Regimes and Heat Flux Deposition in the WEST Shallow Divertor Configuration
- Page **383–387** — M. Kobayashi, Y. Feng, I. Yamada, H. Hayashi, and G. Kawamura
Benchmark of Monte Carlo Scheme of EMC3 Dealing with Non-Uniform Cross-Field Transport Coefficients and Implementation in LHD
- Page **388–393** — T. Takizuka, S. Azuma, A. Fukuyama, and K. Shimizu
Simple and Fast Poisson Solver with Arbitrary Boundary Shape and Condition for PIC Simulation

Kinetic and Monte Carlo codes

- Page **394–398** — Y. Homma and A. Hatayama
Numerical Modeling of the Thermal Force for the Kinetic Test- Ion Transport Simulation Based on the Fokker-Planck Collision Operator
- Page **399–403** — D. Tskhakaya, D. Coster, and ITM-TF contributors
Implementation of PIC/MC Code BIT1 in ITM Platform

- Page **404–408** — K. Hoshino, K. Shimizu, H. Kawashima, T. Takizuka, T. Nakano, and S. Ide
Development of the Backflow Model for Simplified Impurity Exhaust in Monte-Carlo Calculation
- Page **409–414** — A. Mekkaoui, V. Kotov, D. Reiter, and P. Boerner
Effect of Turbulent Fluctuations on Neutral Particle Penetration and Charge Exchange Sputtering
- Page **415–420** — J. Guterl, R.D. Smirnov, and S.I. Krasheninnikov
Long-Term Hydrogen Outgassing from Plasma Facing Components
- Page **421–425** — S. Yamoto, K. Hoshino, M. Toma, Y. Homma, A. Hatayama, X. Bonnin, D. Coster, and R. Schneider
Systematic Study of Tungsten Impurity Transport in Representative Regimes of Divertor Plasma

Plasma multi-fluid codes

- Page **426–431** — Y. Feng, H. Frerichs, M. Kobayashi, A. Bader, F. Effenberg, D. Harting, H. Hoelbe, J. Huang, G. Kawamura, J. D. Lore, T. Lunt, D. Reiter, O. Schmitz, and D. Sharma
Recent Improvements in the EMC3-Eirene Code
- Page **432–436** — G. Ciraolo, H. Bufferand, Ph. Ghendrih, J. Bucalossi, Y. Marandet, and E. Serre
Investigation of Edge and SOL Particle Flux Patterns in High Density Regimes using SOLEDGE2D-EIRENE Code
- Page **437–441** — G. Kawamura, Y. Feng, M. Kobayashi, M. Shoji, T. Morisaki, S. Masuzaki, and Y. Tomita
First EMC3-EIRENE Simulations with Divertor Legs of LHD in Realistic Device Geometry
- Page **442–447** — I. Ivanova-Stanik, R. Zagórski, G. Telesca, A. Czarnicka, C. Challis, J. Hobirk, and JET EFDA contributors
Integrated Modelling of Nitrogen Seeded JET ILW Discharges for H-mode and Hybrid Scenarios
- Page **448–453** — E. Havlíčková, M. Wischmeier, and G. Fishpool
Modelling the Effect of the Super-X Divertor in MAST Upgrade on Transition to Detachment and Distribution of Volumetric Power Losses
- Page **454–458** — E.T. Meier, V.A. Soukhanovskii, S. Gerhardt, J.E. Menard, and T.D. Rognlien
Multi-Fluid Transport Modeling of NSTX Upgrade Standard and Snowflake Divertor Configurations

- Page **459–463** ——— B. Viola, G. Corrigan, D. Harting, G. Maddaluno, M. Mattia, V.P. Ridolfini, and R. Zagórski
Preliminary Comparison of the Conventional and Quasi-Snowflake Divertor Configurations with the 2D Code EDGE2D/EIRENE in the FAST Tokamak
- Page **464–468** ——— G. Peška, R. Zagórski, V.P. Ridolfini, G. Artaserse, G. Calabrò, F. Crisanti, G. Maddaluno, G. Ramogida, and B. Viola
TECXY Code Simulation of Snowflake Divertor Configuration in DEMO Reactor

Sheath effects and magnetic stochasticity

- Page **469–473** ——— D. Brida and D. Tskhakaya
Investigation of Oscillations in the Plasma Sheath
- Page **474–478** ——— S. Takamura, S. Ono, and N. Ohno
Modified Power Transmission Factor of Tungsten in Plasmas with Hot Electron Component
- Page **479–483** ——— C.C. Chang, Y. Nishimura, and C.Z. Cheng
Guiding center orbit following calculation of edge particle and heat transport in stochastic magnetic field

Edge transport parallel and perpendicular to magnetic field

- Page **484–492** ——— – Invited paper –
J. D. Callen
Pedestal Structure without and with 3D Fields
- Page **493–497** ——— A. V. Chankin and D. P. Coster
Benchmarks of KIPP: Vlasov-Fokker-Planck Code for Parallel Plasma Transport in the SOL and Divertor
- Page **498–502** ——— T. Eisenstecken and D. Tskhakaya
On Ion Sound Speed in a High Recycling Plasma Edge
- Page **503–507** ——— M. Gasteiger and D. Tskhakaya
On the Electron Distribution Function in the Edge Plasma

Electric field effects

- Page **508–516** ——— – Invited paper –
V. Rozhansky
Drifts, Currents, and Radial Electric Field in the Edge Plasma with Impact on Pedestal, Divertor Asymmetry and RMP Consequences

- Page **517–523** ——— M. A. Dorf, R. H. Cohen, M. Dorr, J. Hittinger, and T. D. Rognlien
Progress with the COGENT Edge Kinetic Code: Implementing the Fokker-Planck Collision Operator
- Page **524–528** ——— W. M. Stacey
Structure in the Edge Plasma Profiles in Tokamaks
- Page **529–533** ——— I. Hannachi, H. Capes, L. Godbert-Mouret, F. Guzman, M. Koubiti, Y. Marandet, J. Rosato, M. T. Meftah, and R. Stamm
Stochastic Processes Applied to the Spectroscopic Diagnostic of Hydrogen in Edge Plasmas

Instabilities and turbulence

- Page **534–542** ——— – Invited paper –
I. Pusztai, M. Landreman, A. Mollén, Ye. O. Kazakov, and T. Fülöp
Radio Frequency Induced and Neoclassical Asymmetries and their Effects on Turbulent Impurity Transport in a Tokamak
- Page **543–548** ——— C. Colin, P. Tamain, P. Ghendrih, F. Schwander, and E. Serre
Impact of a Langmuir Probe on Turbulence Measurements in the Scrape-Off-Layer of Tokamaks
- Page **549–554** ——— A. Stegmeir, D. Coster, O. Maj, and K. Lackner
Numerical Methods for 3D Tokamak Simulations Using a Flux-Surface Independent Grid
- Page **555–559** ——— P. Tamain, H. Bufferand, G. Ciruolo, C. Colin, Ph. Ghendrih, F. Schwander, and E. Serre
3D Properties of Edge Turbulent Transport in Full-Torus Simulations and their Impact on Poloidal Asymmetries

Neutrals and multi-ion theories, radiation

- Page **560–564** ——— M. Koubiti, L. Godbert-Mouret, S. Ferri, Y. Marandet, J. Rosato, and R. Stamm
Impact of Differing Electron and Ion Temperatures on Emission Lines of Impurities in Tokamak Divertors
- Page **565–569** ——— J. Rosato, Y. Marandet, A. Peiffer, H. Capes, L. Godbert-Mouret, M. Koubiti, and R. Stamm
Modeling of Stark-Broadened Lines in a Fluctuating Edge Plasma
- Page **570–574** ——— D. Kh. Morozov and A. A. Mavrin
Stability of the Radiative Mode $m = n = 0$ and Density Limit in Tokamaks

- Page **575–579** ——— D. Moulton, Y. Marandet, P. Tamain, Ph. Ghendrih, and R. Futtersack
Density and Temperature Correlations in the SOL; Implications for Gas Puff Imaging of Turbulence
- Page **580–584** ——— F. Guzmán, Y. Marandet, D. Moulton, R. Futtersack, Ph. Ghendrih, R. Guirlet, J. Rosato, R. Stamm, and P. Tamain
Time Dependent Collisional-Radiative Model for Scrape-Off Layer Impurity Turbulent Transport Studies
- Page **585–590** ——— Yu. L. Igitkhanov
Conversion of Magnetic Energy of Runaway Electrons During Disruption Termination

Models of specific phenomena and edge control

- Page **591–598** ——— **– Invited paper –**
K. Kamiya, G. Matsunaga, M. Honda, N. Miyato, H. Urano, Y. Kamada, K. Ida, K. Itoh, and the JT-60 team
Edge Radial Electric Field Formation after the L-H Transition on JT-60U
- Page **599–604** ——— N. Hayashi, N. Aiba, T. Takizuka, and N. Oyama
Integrated Simulation Study of ELM Pacing by Pellet Injection in ITER
- Page **605–609** ——— H. Takeda, Y. Nakashima, Y. Iida, K. Hosoi, T. Furuta, M. Toma, A. Hatayama, K. Ichimura, H. Ueda, M. Iwamoto, Y. Hosoda, M. Yoshikawa, M. Sakamoto, M. Ichimura, and T. Imai
Simulation of Radiation Cooling Effects in the GAMMA 10 West End-Cell Using Fluid Model
- Page **610–614** ——— R. D. Smirnov, S. I. Krasheninnikov, J. Guterl, M. J. Baldwin, and R. P. Doerner
Modeling of Hydrogen Retention and Outgassing from Co-Deposits with Distributed Energy States
- Page **615–619** ——— A. Yu. Pigarov, R. D. Smirnov, S. I. Krasheninnikov, and T. D. Rognlien
Modeling of Tungsten Dust Transport in ITER with Multi-Physics Code DUSTT/UEDGE