

Table of Contents

Particle-in-Cell Simulation of Plasmas – A Tutorial <i>Philip L. Pritchett</i>	1
Parallel 3-D Electromagnetic Particle Code Using High Performance FORTRAN: Parallel TRISTAN <i>Dongsheng Cai, Yaoting Li, Ken-Ichi Nishikawa, Chijie Xiao,</i> <i>Xiaoyang Yan, Zuying Pu</i>	25
Full Particle Electromagnetic Simulation of Collisionless Shocks <i>Bertrand Lembège</i>	54
Simulation of Electron Beam Instabilities and Nonlinear Potential Structures <i>Yoshiharu Omura, Takayuki Umeda, Hiroshi Matsumoto</i>	79
Kinetic Simulation of Inhomogeneous Plasma with a Variable Sized Grid System <i>David Schriver</i>	93
Low Noise Electrostatic and Electromagnetic Delta-f Particle-in-Cell Simulation of Plasmas <i>Richard D. Sydora</i>	109
Particle Simulation of Dusty Plasmas <i>Glenn Joyce, Martin Lampe, Gurudas Ganguli</i>	125
Hybrid Simulation Codes: Past, Present and Future – A Tutorial <i>Dan Winske, Lin Yin, Nick Omidi, Homa Karimabadi, Kevin Quest</i>	136
Hall Magnetohydrodynamics - A Tutorial <i>Joseph D. Huba</i>	166
Fluid Plasma Simulation of Coupled Systems: Ionosphere and Magnetosphere <i>Antonius Otto, Hua Zhu</i>	193
Global Magnetohydrodynamics – A Tutorial <i>Joachim Raeder</i>	212

Adaptive Mesh Refinement for Global Magnetohydrodynamic Simulation <i>Tamas I. Gombosi, Darren L. De Zeeuw, Kenneth G. Powell, Aaron J. Ridley, Igor V. Sokolov, Quentin F. Stout, Gábor Tóth</i>	247
Finite Volume TVD Schemes for Magnetohydrodynamics on Unstructured Grids <i>Takashi Tanaka</i>	275
Global Magnetohydrodynamic Simulation Using High Performance FORTRAN on Parallel Computers <i>Tatsuki Ogino</i>	296
Numerical Schemes for the Analysis of Turbulence – A Tutorial <i>Thierry Dudok de Wit</i>	315
Subject Index	345

Space Plasma Simulation

Büchner, J.; Dum, C.; Scholer, M. (Eds.)

2003, XIII, 354 p. 122 illus., 49 illus. in color., Hardcover

ISBN: 978-3-540-00698-5