

PEER-Reviewed Publications in Scientific Journals/Conference Proceedings/Book Chapter

2007-2008 Reprints (69)

1. Intrinsic Rotation and Electric Field Shear
O. D. GURCAN, P. H. DIAMOND, T. S. HAHM, and R. SINGH
[*Physics of Plasmas*, **14**, 042306, 2007](#)
2. Wave Induced Barrier Transparency and Melting of Quasi-Crystalline Structures in Two Dimensional Plasma Turbulence
AMITA DAS
[*Physics of Plasmas*, **14**, 042307, 2007](#)
3. Design of Multipulse Thomson Scattering Diagnostic for SST-1 Tokamak
AJAI KUMAR, CHHAYA CHAVDA, Y. C. SAXENA, RANJEET SINGH, ARUNA THAKAR, JINTO THOMAS, KIRAN PATEL, KAUSHAL PANDYA, and VIJAY BEDAKIHALE
[*Review of Scientific Instruments*, **78**, 043507, 2007](#)
4. Theoretical Study of FCC–HCP Phase Coexistence and Phase Stability In Al By FP-LAPW Method with GGA for Exchange and Correlation
VINAYAK MISHRA and S. CHATURVEDI
[*Physica B: Condensed Matter*, **393**, 278, 2007](#)
5. Coherence resonance in an excitable system with time delay
GAUTAM C. SETHIA, JURGEN KURTHS and ABHIJIT SEN
[*Physics Letters A*, **364**, 227, 2007](#)
6. Pulsed Plasma Production for Applications in Plasma Immersion Ion Implantation and its Implications
S. MUKHERJEE, M. RANJAN, R. RANE, N. VAGHELA, A. PHUKAN and K.S. SURAJ
[*Surface and Coatings Technology*, **201**, 6502, 2007](#)
7. A Model for Particle and Heat Losses by Type I Edge Localized Modes
M Z TOKAR, A GUPTA, D KALUPIN and R SINGH
[*Plasma Physics & Controlled Fusion*, **49**, 395, 2007](#)
8. Deposition of Superhydrophobic Nanostructured Teflon-Like Coating Using Expanding Plasma Arc
A. SATYAPRASAD, V. JAIN and S.K. NEMA
[*Applied Surface Science*, **253**, 5462, 2007](#)
9. Plasma Nitriding of a Low Alloy – High Carbon Steel
A.BASU, J. DUTTA MAJUMDAR, J. ALPHONSA, S. MUKHERJEE, and I. MANNA
[*Transactions of the Indian Institute of Metals*, **60**, 471, 2007](#)
10. Characterization of the Plasma Properties of a Reverse Polarity Planar Magnetron Operated as an Ion Source
MUKESH RANJAN, KISHOR K. KALATHIPARAMBIL, NARESH P. VAGHELA, and SUBROTO MUKHERJEE

[Plasma Processes and Polymers, 4, 1030, 2007](#)

11. Modification of Edge Current Profile and Improved Confinement Induced by Biased Electrode in The Very Low Qa (VLQ) Discharges of SINP - Tokamak JOYDEEP GHOSH, RABINDRANATH PAL, P.K. CHATTOPADHYAY, and DEBJYOTI BASU
[Nuclear Fusion, 47, 331, 2007](#)
12. Zero-dimensional model for magnetic curvature driven Rayleigh Taylor turbulence simulations SARVESHWAR SHARMA, AMITA DAS, PREDHIMAN KAW and ABHIJIT SEN
[Physica A: Statistical Mechanics and its Applications, 378, 211, 2007](#)
13. Role Of Ambient Gas and Laser Fluence In Governing The Dynamics Of The Plasma Plumes Produced by Laser Blow Off of Lif-C Thin Film
R. K. SINGH, AJAI KUMAR, B. G. PATEL, and K. P. SUBRAMANIAN
[Journal of Applied Physics, 101, 103301, 2007](#)
14. Nonlinear Excitation of Geodesic Acoustic Modes by Drift Waves
N. CHAKRABARTI, R. SINGH, P. K. KAW, and P. N. GUZDAR
[Physics of Plasmas, 14, 052308, 2007](#)
15. Quasisteady State Interpulse Plasmas
SUDEEP BHATTACHARJEE, INDRANUJ DEY, ABHIJIT SEN, and HIROSHI AMEMIYA
[Journal of Applied Physics, 101, 113311, 2007](#)
16. Surface Modification of Angora Rabbit Fibers Using Dielectric Barrier Discharge
N. DANISH, M.K. GARG, R.S. RANE, P.B. JHALA and S.K. NEMA
[Applied Surface Science, 253, 6915, 2007](#)
17. Integrated Modelling of The Edge Plasma and Plasma Facing Components
D.P. COSTER, X. BONNIN, A. MUTZKE, R. SCHNEIDER and M. WARRIER
[Journal of Nuclear Materials, 363-365, 136, 2007](#)
18. Dynamic Monte-Carlo Modeling of Hydrogen Isotope Diffusion in Co-Deposited Layers
A. RAI, P.N. MAYA, R. SCHNEIDER, S.P. DESHPANDE and M. WARRIER
[Journal of Nuclear Materials, 363-365, 1272, 2007](#)
19. Stability of Nonlinear One-Dimensional Laser Pulse Solitons in a Plasma
VIKRANT SAXENA, AMITA DAS, SUDIP SENGUPTA, PREDHIMAN KAW, and ABHIJIT SEN
[Physics of Plasmas 14, 072307, 2007](#)
20. Coherence Resonance in an Autapse Neuron Model with Time Delay
GAUTAM C. SETHIA, JURGEN KURTHS, AND ABHIJIT SEN
[Proc. SPIE, 6602, 66020Q, 2007](#)
21. A prototype Experiment on Remote Steering Antenna for ECRH System
B.K. SHUKLA, K. SATHYANARAYANA, P. CHATTOPADHYAY, PRAGNESH DHORAJIA, and D. BORA
[Fusion Science and Technology, 52, 68, 2007](#)

22. Characterization of Atmospheric Pressure Glow Discharge in Helium Using Langmuir Probe, Emission Spectroscopy, and Discharge Resistivity
ANAND KUMAR SRIVASTAVA, MANOJ KUMAR GARG, K.S. GANESH PRASAD,
VINAY KUMAR, MALAY BIKAS CHOWDHURI, and RAM PRAKASH
[*IEEE Transactions on Plasma Science*, **35**, 1135, 2007](#)
23. Electrostatic Pickup Rejection in Low Plasma Current Measurement
MANASH KUMAR PAUL, P K CHATTOPADHYAY and DHIRAJ BORA
[*Measurement Science and Technology*, **18**, 2673, 2007](#)
24. Effect of Plasma Immersion Ion Implantation of Nitrogen on The Wear and Corrosion Behavior of 316LVM Stainless Steel
P. SARAVANAN, V.S. RAJA and S. MUKHERJEE
[*Surface and Coatings Technology*, **201**, 8131, 2007](#)
25. Corrosion and Oxidation Resistance Study of Reactive Ion Beam Mixed 316 SS
S.S. PATIL, R.P. FERNANDES, D.C. KOTHARI, P.A. RAYJADA and P.M. RAOLE
[*Surface and Coatings Technology*, **201**, 8258, 2007](#)
26. Surface Modification of Polymeric Blends by Nitrogen Plasma Implantation
N.L. SINGH, ANJUM QURESHI, S. MUKHERJEE, A.K. RAKSHIT, A. TRIPATHI and D.K. AVASTHI
[*Surface and Coatings Technology*, **201**, 8278, 2007](#)
27. High Performance Thyrotron Driver With Low Jitter
RISHI VERMA, P. LEE, S. V. SPRINGHAM, T. L. TAN, and R. S. RAWAT
[*Review of Scientific Instruments*, **78**, 086107, 2007](#)
28. Wave-Induced Helicity Current Drive by Helicon Waves
MANASH KR PAUL and DHIRAJ BORA
[*Physics of Plasmas* **14**, 082507, 2007](#)
29. Dynamic Monte-Carlo Modeling Of Hydrogen Isotope Reactive–Diffusive Transport In Porous Graphite
R. SCHNEIDER, A. RAI, A. MUTZKE, M. WARRIER, E. SALONEN and K. NORDLUND
[*Journal of Nuclear Materials*, **367-370**, Part 2, 1238, 2007](#)
30. Experimental Observation of Strong Coupling Effects on the Dispersion of Dust Acoustic Waves in a Plasma
P. BANDYOPADHYAY, G. PRASAD, A. SEN and P.K. KAW
[*Physics Letters A*, **368**, 491, 2007](#)
31. Dynamical Origin of Shear Flow Induced Modifications of Magnetic Islands
D. CHANDRA, A. SEN and P. KAW
[*Nuclear Fusion*, **47**, 1238, 2007](#)
32. Dissociative Photo-Multiple-Ionisation of CO and CO₂
B. BAPAT, VANDANA SHARMA, I. A. PRAJAPATI, K. P. SUBRAMANIAN, R. K. SINGH
and G. S. LODHA
[*Journal of Physics: 7th Asian International Seminar on Atomic and Molecular Physics*](#)

[Conference Series, 80, 012027, 2007](#)

33. Charge-Order-Maximized Momentum-Dependent Superconductivity
T. KISS, T. YOKOYA, A. CHAINANI, S. SHIN, T. HANAGURI, M. NOHARA, and H. TAKAGI
[Nature Physics, 3, 720, 2007](#)
34. Design and Testing of 200 kW/91.2 MHz RF Amplifier
RAGHURAJ SINGH, APARAJITA MUKHARJEE, D.S. BHATTACHARYA, RAJNISH KUMAR, Y.S.S. SRINIVAS, AGRAJIT GAHLOT, ANIL BHARDWAJ, PRABAL BISWAS, BHAVESH R. KADIA, H.M. JADAV and D. BORA
[Fusion Engineering and Design, 82, 853, 2007](#)
35. Real-time Acquisition and Remote Monitoring Of Steady State Tokamak (SST-1) Diagnostics Data
MANIKA DEY and H.D. PUJARA
[Fusion Engineering and Design, 82, 1198, 2007](#)
36. Design and Fabrication of a Superconducting Conductor Sample to Evaluate Instabilities due to Artificial Non-Uniform Current Distribution
KAZUTAKA SEO, GOURAB BANSAL, NAGATO YANAGI, TSUTOMU HEMMI, KAZUYA TAKAHATA, TOSHIYUKI MITO, BISWANATH SARKAR and YOGESH C. SAXENA
[Cryogenics, 47, 490, 2007](#)
37. Near cathode optical emission spectroscopy in N₂-H₂ glow discharge plasma
K.S. SURAJ, P. BHARATHI, V. PRAHLAD and S. MUKHERJEE
[Surface and Coatings Technology, 202, 301, 2007](#)
38. Thermal Electron Cyclotron Emission Measurement on the ADITYA Tokamak by Radiometers
H K B PANDYA, K K JAIN and ADITYA TEAM
[Plasma Physics & Controlled Fusion, 49, 1809, 2007](#)
39. Cylindrical Stationary Striations in Surface Wave Produced Plasma Columns of Argon
RAJNEESH KUMAR, SANJAY V. KULKARNI, and DHIRAJ BORA
[Physics of Plasmas, 14, 122101, 2007](#)
40. Effect of the Porous Structure of Graphite on Atomic Hydrogen Diffusion and Inventory
M. WARRIER, R. SCHNEIDER, E. SALONEN and K. NORDLUND
[Nuclear Fusion, 47, 1656, 2007](#)
41. Flow Dynamics of Ions Generated by Laser-Blow-Off of LiF-C Film
R. K. SINGH and AJAI KUMAR
[IEEE Transactions on Plasma Science, 35, 1717, 2007](#)
42. Tomographic Reconstruction of Emissivity Profile from Tangentially Viewed Images using Pixel Method
SANTANU BANERJEE, ASIM KUMAR CHATTOPADHYAY and P. VASU
[Plasma Fusion Research, 2, S1120, 2007](#)

43. Simultaneous Topography and Tomography of Latent Fingerprints Using Full-Field Swept-Source Optical Coherence Tomography
SATISH KUMAR DUBEY, DALIP SINGH MEHTA, ARUN ANAND and CHANDRA SHEKHAR
[*Journal of Optics A: Pure Applied Optics*, **10**, 015307, 2008](#)
44. Simultaneous ionization and excitation of helium by electron impact
C. DAL CAPPELLO, A.C. ROY, X.G. REN and R. DEY
[*Nuclear Instruments and Methods in Physics Research Section B*, **266**, 570, 2008](#)
45. Deposition and Characterization of Copper Thin Films on a Polymer Surface by using a DC Cylindrical Magnetron Sputtering Technique
V. TYAGI, M. RANJAN, R. RANE, N. VAGHELA, P.K. BARHAI, V. ACHARYA, and S. MUKHERJEE
[*Physica Status Solidi \(c\)*, **5**, 960, 2008](#)
46. Effect of Electron Emission and Potential Perturbations of a Hot Filament in High Voltage Pulsed Glow Discharge
A. PHUKAN, S. MUKHERJEE, R.S. RANE, M. RANJAN and N. VAGHELA
[*Physics Letters A*, **372**, 866, 2008](#)
47. Electron impact single ionization of helium with large energy transfer
R. DEY, A.C. ROY and C. DAL CAPPELLO
[*Nuclear Instruments and Methods in Physics Research Section B*, **266**, 242, 2008](#)
48. Excitation of Geodesic Acoustic Modes by Ion Temperature Gradient Modes
P. N. GUZDAR, N. CHAKRABARTI, R. SINGH and P. K. KAW
[*Plasma Physics & Controlled Fusion*, **50**, 025006, 2008](#)
49. Nonlinear Viscous Dynamics of the M=1 Tearing Instability
K. TAKEDA, O. AGULLO, S. BENKADDA, A. SEN, N. BIAN, and X. GARBET
[*Physics of Plasmas*, **15**, 022502, 2008](#)
50. Attenuation of Microwaves Propagating Through Parallel-Plate Helium Glow Discharge at Atmospheric Pressure
A. K. SRIVASTAVA, G. PRASAD, P. K. ATREY, and VINAY KUMAR
[*Journal of Applied Physics*, **103**, 033302, 2008](#)
51. Synergistic Erosion Process of Hydrocarbon Films: A Molecular Dynamics Study
P N MAYA, U VON TOUSSAINT and C HOPF
[*New Journal of Physics*, **10**, 023002, 2008](#)
52. Modelling of Pedestal Transport during ELM Suppression by External Magnetic Field Perturbations
M.Z. TOKAR, T.E. EVANS, A. GUPTA, D. KALUPIN, A. NICOLAI, R. SINGH and B. UNTERBERG
[*Nuclear Fusion*, **48**, 024006, 2008](#)

53. Relaxation and Self-Organization in Two-Dimensional Plasma and Neutral Fluid Flow Systems
AMITA DAS
[*Physics of Plasmas*, **15**, 022308, 2008](#)
54. FFT Analysis of a Series Loaded Resonant Converter-Based Power Supply for Pulsed Power Applications
R. B. JADEJA, S. A. KANITKAR, and ANURAG SHYAM
[*International Journal of Plasma Science and Engineering*, **2008**, 284549, 2008](#)
55. Effect of Liner Non-Uniformity on Plasma Instabilities in An Inverse Z-Pinch Magnetized Target Fusion System: Liner-on-Plasma Simulations and Comparison with Linear Stability Analysis
P V SUBHASH, S MADHAVAN and S CHATURVEDI
[*Physica Scripta*, **77**, 035501, 2008](#)
56. Instrumentation, Data Acquisition and Controls for Temperature Measurement of Cold Surfaces at 4.5 K and 80 K OF SST-1 Machine
P. PANCHAL, D. SONARA, B. SARKAR, R. BHATTACHARYA, R. PANCHAL, R. PATEL, J. TANK, M. SINGH, A. K. SAHU, and Y. C. SAXENA
[*AIP Conf. Proc.* **985**, 981, 2008](#)
57. Adopted Methodology for Cool-Down of SST-1 Superconducting Magnet System: Operational Experience with The Helium Refrigerator
A.K. SAHU, B. SARKAR, P. PANCHAL, J. TANK, R. BHATTACHARYA, R. PANCHAL, V.L. TANNA, R. PATEL, P. SHUKLA, J. C. PATEL, M. SINGH, D. SONARA, R. SHARMA, R. DUGGAR and Y.C. SAXENA
[*AIP Conf. Proc.* **985**, 570, 2008](#)
58. Design, Analysis and Test Concept for Prototype Cryoline of ITER
B. SARKAR, S. BADGUJAR, H. VAGHELA, N. SHAH, R. BHATTACHARYA, and CH. CHAKRAPANI
[*AIP Conf. Proc.* **985**, 1716, 2008](#)
59. Electron Cyclotron Resonance Breakdown Studies in A Linear Plasma System
VIPIN K YADAV, K SATHYANARAYANA and D BORA
[*Pramana*, **70**, 487, 2008](#)
60. Characteristics of Electron Cyclotron Resonance Plasma Formed by Lower Hybrid Current Drive Grill Antenna
P.K. SHARMA, S.L. RAO, K. MISHRA, R.G. TRIVEDI, and D. BORA
[*Pramana*, **70**, 503, 2008](#)
61. Structure of boundary diffraction wave revisited
R. KUMAR
[*Applied Physics B: Lasers and Optics*, **90**, 379, 2008](#)
62. Molecular Dynamics Simulation of Carbon Nanotubes Interacting with a Graphite Surface
S. NEGI, M. WARRIER, S. CHATURVEDI, and K. NORDLUND
[*Journal of Computational and Theoretical Nanoscience*, **5**, 247, 2008](#)

63. Microwave Produced Plasma Study in a Cylindrical System
V. K. YADAV, K. SATHYANARAYANA, and D. BORA
[*AIP Conference Proceedings*, **993**, 307, 2008](#)
64. Genetic Programming Based Approach for Modeling Time Series of Real Systems”
DILIP P. AHALPARA and JITENDRA C. PARIKH
[*International Journal of Modern Physics C*, **19**, 63, 2008](#)
65. Coherent Structures in Toroidal Electron Plasmas: Simulation and Experiments
R. GANESH and S. PAHARI
Proceedings of the COSNet/CSIRO Workshop on Turbulence and Coherent Structures in Fluids, Plasmas and Nonlinear Media, The Australian National University, Canberra, Australia, World Scientific Lecture Notes in Complex Systems, **6**, 471, 2007
66. Open access to scholarly publications
S. DAS, P.J. PATHAK and N.K. PATRA
Digital Libraries: A Festschrift Volume of Professor R.K. Rout edited by B.S. Nigam and Sanjay Kataria. Mahamaya Publishing House, New Delhi, 197-215, 2008. ISBN 81-8325-066-5

Translation of Books Published by Department of Atomic Energy, Mumbai into Gujarati by Dilip P. Ahalpara

67. Documents Related to Civil Nuclear Energy Cooperation with the United States of America: A set of articles collected by Department of Atomic Energy (Nagarik Parmanu Urja ange Samyukta Rastra America Sathena Sahayog Vishayana Dasthavejo) was brought out in a book, published by PrintVision, Ahmedabad, 2007

Atoms and Development (Parmanu ane Vikas), published by PrintVision, Ahmedabad
68. Nuclear India Vol. 39/ No. 11-12/ May-June 2006 issue was translated and was brought out as a book on ITER (Antarashtriya Thermonuclear Prayogik Reactor), published by PrintVision, Ahmedabad, 2008
69. Science, Ethics and Society: Essays on Science
Edited by Dilip P. Ahalpara, Gujarat Science Academy, Ahmedabad, 2007