

CONTENTS

Preface	xv
Committees	xvii

16th IAEA Technical Meeting on Research Using Small Fusion Devices

DENSE MAGNETIZED PLASMAS

Plasma and Beams Dynamics in PF-1000 Device under the Full-Scale Energy Storage	5
V. A. Gribkov, A. Banaszak, B. Bienkowska, A. V. Dubrovsky, I. Ivanova-Stanik, L. Jakubowski, L. Karpinski, R. Miklaszewski, M. Paduch, M. Sadowski, M. Scholz, A. Szydłowski, and K. Tomaszewski	
Studies of X-Ray Spectral Lines Polarization in Correlation with the Emission of Supra-Thermal Electrons in Plasma-Focus Discharges	11
L. Jakubowski, M. Sadowski, and E. O. Baronova	
Time of Neutron Production on Z-Pinch and Plasma Focus Devices	15
P. Kubes, J. Kravarik, D. Klir, M. Scholz, M. Paduch, K. Tomaszewski, I. Ivanova-Stanik, B. Bienkowska, L. Karpinski, M. Sadowski, H. Schmidt, Y. L. Bakshaev, P. I. Blinov, A. S. Chernenko, M. I. Ivanov, E. D. Kazakov, A. V. Korelsky, E. V. Kravchenko, V. D. Korolev, A. Y. Shashkov, and G. I. Ustroev	
The Dense Plasma Focus Group of IFAS at Argentina: A Brief History and Recent Direction of the Investigations	19
M. M. Milanese and the Tandil Dense Plasma Focus Team	
0.2 Hz Plasma-Focus-Based Source of Fast Neutrons and Hard X-Rays for Applications	23
C. Moreno, V. Raspa, F. Di Lorenzo, A. Lazarte, P. Knoblauch, and A. Clausse	
A Simple Method for the Time-Resolved Measurement of Electron Temperature in a Z-Pinch	27
A. Robledo-Martinez	
A Gas Embedded Z-Pinch Driven by SPEED2 Generator	31
L. Soto, C. Pavéz, J. Moreno, G. Sylvester, P. Silva, M. Zambra, and A. Clausse	
Studies of Fusion Protons from a $^3\text{He-D}_2$ Plasma Focus Using Nuclear Track Detectors	35
S. V. Springham, T. H. Sim, P. Lee, R. S. Rawat, P. M. E. Shutler, T. L. Tan, A. Patran, and S. Lee	
Diagnostic System for Time-of-Flight Neutron Measurements	41
K. J. Tomaszewski	

INNOVATIVE CONCEPTS

Identification of the Sequence of Steps Intrinsic to Spheromak Formation	47
P. M. Bellan, S. You, and G. S. Yun	

The Experiments of the Small Spherical Tokamak Gutta	53
G. M. Vorobyov, D. A. Ovsyannikov, A. D. Ovsyannikov, E. V. Suhov, E. I. Vermey, V. M. Zavadsky, and A. P. Zhabko	

SUPPORTING RESEARCH

Intermittent Turbulence and Turbulent Structures in LAPD and ET	59
T. A. Carter, D. C. Pace, A. E. White, J.-L. Gauvreau, P.-A. Gourdain, L. Schmitz, and R. J. Taylor	

First Results of the Testing of the Liquid Gallium Jet Limiter Concept for ISTTOK	66
R. B. Gomes, H. Fernandes, C. Silva, D. Borba, B. Carvalho, C. Varandas, O. Lielaisis, A. Klyunkin, E. Platacis, A. Mikelsons, and I. Patnieks	

Improvement of Characteristics of Laser Source of Ions Using Two-Element Targets	72
R. T. Khaydarov	

Plasma-Material Interaction Studies on Lithium and Lithiated Substrates during Compact Tokamak Operation	78
M. Nieto, J. P. Allain, A. Hassanein, V. Titov, M. Hendricks, T. Gray, R. Katia, H. Kugel, R. Majeski, D. Mansfield, J. Spaleta, and J. Timberlake	

Perspectives of the Lithium Capillary-Pore System Application in Fusion: Experiments with Lithium Limiter on T-11M Tokamak	83
S. V. Mirnov, E. A. Azizov, V. A. Evtikhin, V. B. Lazarev, I. E. Lyublinski, A. V. Vertkov, D. Yu. Prokhorov, and T. K. Soboleva	

Thermonuclear Plasma Confinement with Thermomagnetic Currents Generated by Nuclear Reactions from Fusion Neutrons	89
F. Winterberg	

STELLERATORS

Quasi-Coherent Oscillations in the TJ-II Stellarator	95
L. Krupnik, A. Melnikov, C. Hidalgo, A. Chmyga, N. Dreval, L. Eliseev, T. Estrada, A. Komarov, A. Kozachok, S. Perfilov, M. Pedrosa, A. Alonso, and J. L. de Pablos	

Plasma Electric Potential Evolution at the Core and Edge of the TJ-II Stellarator and T-10 Tokamak	99
L. Krupnik, A. Melnikov, C. Hidalgo, A. Alonso, A. Chmyga, L. Eliseev, A. Komarov, A. Kozachok, S. Lysenko, J. L. de Pablos, S. Perfilov, and V. Tereshin	

TOKAMAK RESEARCH

Edge Plasma Measurements Using Emissive Probes in ISTTOK	105
P. Balan, C. Ioniă, R. Schrittwieser, C. Silva, H. F. C. Figueiredo, C. A. F. Varandas, J. J. Rasmussen, and V. Naulin	

Recent Results of IRAN-T1 Tokamak	111
D. Dorranian, M. Ghoranneviss, M. K. Salem, M. Mahmoodi, R. Arvin, A. Talebitaher, A. Abhari, P. Khorshid, and A. Hojabri	

ISTTOK Upgrade towards AC and Remote Operation	115
H. Fernandes, C. Silva, B. Carvalho, J. Sousa, D. Valcárcel, A. Neto, J. Fortunato, I. Carvalho, and C. A. F. Varandas	

Recent Activities on the Experimental Research Programme Using Small Tokamaks	120
M. P. Gryaznevich, E. del Bosco, A. Malaquias, G. Mank, G. Van Oost, and the IAEA CRP "Joint Research Using Small Tokamak" Members	

Edge Plasma Studies and Related Diagnostics on CASTOR Tokamak	129
M. Hron, J. Stockel, P. Devynck, E. Martines, G. Van Oost, I. Duran, R. Panek, J. Adamek, and V. Weinzettl	

MHD Instabilities and Toroidal Field Effects on Plasma Column Behavior in Tokamak	135
P. Khorshid, L. Wang, M. Ghoranneviss, R. Arvin, D. Dorranian, A. Talebitaher, M. K. Salem, and A. Abhari	

Electron Temperature and Density Measurements by the Unicity of Particle Confinement Time on the TCABR Tokamak	139
M. Machida, I. C. Nascimento, A. M. Daltrini, J. H. F. Severo, E. K. Sanada, and R. M. O. Galvão	

Proposals for an Influential Role of Small Tokamaks in Mainstream Fusion Physics and Technology Research	142
G. Van Oost, E. del Bosco, M. P. Gryaznevich, A. Malaquias, and G. Mank	

Recent Experimental Results in the HL-2A Tokamak	150
W. Li, Q. W. Yang, X. T. Ding, L. W. Yan, Z. B. Shi, Y. B. Dong, L. H. Yao, W. Y. Hong, W. M. Xuan, D. Q. Liu, L. Y. Chen, X. M. Song, J. H. Zhang, Z. Cao, Z. Y. Cui, Y. D. Pan, X. R. Duan, Y. Liu, B. B. Feng, Y. Zhou, Y. Huang, Y. Liu, and The HL-2A TEAM	

XI Latin American Workshop on Plasma Physics**PLASMA SCIENCE APPLICATIONS**

Characterization of DC Magnetron Sputtering Plasma Used for Deposition of Amorphous Carbon Nitride	161
E. Camps, L. Escobar-Alarcón, J. López, G. Zambrano, and P. Prieto	

Plasma Impedance Obtained by Poynting's Theorem and MHD Theory	165
E. E. Farias, G. H. Cavalcanti, F. O. Borges, and M. A. M. Santiago	

Voltage Amplification Using Plasma.....	169	AC Glow Discharge Plasma in N₂O.....	227
E. E. Farias, G. H. Cavalcanti, and M. A. M. Santiago		F. B. Yousif, H. Martinez, A. Robledo-Martinez, and F. Castillo	
Storing Hydrogen, by Enhancing Diamond Powder Properties under Hydrogen Plasma with CaF₂ and KF for Use in Fuel Cells.....	173	Deposition And Characterization of (Ti,Zr)N Thin Films Grown through PAPVD by the Pulsed Arc Technique.....	232
F. E. C. Ochoa		D. M. Marulanda, O. Trujillo, and A. Devia	
Plasma Diagnostics in High Density Reactors	176	NO'x Treatment by Dielectric Barrier Discharge	236
A. M. Daltrini, S. Moshkalyov, M. J. R. Monteiro, M. Machida, A. Kostryukov, E. Besseler, C. Biasotto, and J. A. Diniz		A. Mercado-Cabrera, O. G. Godoy-Cabrera, R. Valencia-Alvarado, R. López-Callejas, S. R. Barocio, R. Peña-Eguiluz, A. Muñoz-Castro, A. de la Piedad-Beneitez, and E. León del Villar	
Industrial Application of Thin Films (TiAl)N Deposited on Thermo-Well.....	180	Study of W/WC Coatings Varying the Substrate Temperature	240
G. Velez, S. Jaramillo, Y. C. Arango, D. Devia, J. Quintero, and A. Devia		R. Ospina, E. Restrepo, Y. C. Arango, H. Castillo, and A. Devia	
Ion Exchange Resin and Clay Vitrification by Plasma Discharges	184	Toxic Gas Removal by Dielectric Discharge with Corona Effect.....	244
L. V. Díaz A., J. O. Pacheco S., M. Pacheco P., F. Monroy G., M. Emeterio H., and F. Ramos F.		H. Moreno, M. Pacheco, J. Pacheco, A. Mercado, A. Cruz, M. Yousfi, O. Eichwald, and M. Benhenni	
A Multicell Converter Model of DBD Plasma Discharges	188	Electrical Characterization of an RF Glow Discharge at Room Pressure	250
A. A. Flores-Fuentes, R. Peña-Eguiluz, R. López-Callejas, A. Mercado-Cabrera, R. Valencia A., S. R. Barocio, O. G. Godoy-Cabrera, A. de la Piedad-Beneitez, J. S. Benítez-Read, and J. O. Pacheco-Sotelo		J. A. Pérez-Martínez, R. Peña-Eguiluz, R. López-Callejas, A. Mercado-Cabrera, R. Valencia A., S. R. Barocio, O. G. Godoy-Cabrera, A. de la Piedad-Beneitez, J. S. Benítez-Read, and J. O. Pacheco-Sotelo	
Impedance Mismatch Study between the Microwave Generator and the PUPR Plasma Machine.....	192	Three-Dimensional Ion Distribution in a Filtered Vacuum Arc Discharge	254
J. R. Gaudier, L. Castellanos, K. Encarnación, N. Zavala, R. Rivera, N. Farahat, and E. Leal		H. Kelly, A. Marquez, and M. Pirerra	
Simulation Study of an Extended Density DC Glow Toroidal Plasma Source.....	195	Effects of the Substrate Temperature in AuN Thin Films by Means of X-Ray Diffraction	258
E. E. Granda-Gutiérrez, R. López-Callejas, R. Peña-Eguiluz, A. Mercado-Cabrera, R. Valencia A., S. R. Barocio, O. G. Godoy-Cabrera, A. de la Piedad-Beneitez, J. S. Benítez-Read, and J. O. Pacheco-Sotelo		A. Devia, V. Benavides, H. A. Castillo, and J. Quintero	
Study of Linear Magnetic Filters in a Pulsed Copper Vacuum Arc	199	Structural and Morphological Difference between Ti/TiN/TiCN Coatings Grown in Multilayer and Graded Form.....	262
L. Giuliani, D. Grondona, and H. Kelly		E. Restrepo, A. Mariño, A. Baena, C. Agudelo, H. Castillo, and A. Devia	
Characterization and Surface Treatment of Materials Used in MADEAL S.A. Industry Productive Process of Rims by Plasma Assisted Repetitive Pulsed Arcs Technique	203	A Simulation of Pre-Arcing Plasma Discharge Processes in Water Purification	266
H. Jiménez, V. H. Salazar, A. Devia, S. Jaramillo, and G. Velez		B. G. Rodríguez-Méndez, R. López-Callejas, R. Peña-Eguiluz, A. Mercado-Cabrera, R. Valencia A., S. R. Barocio, O. G. Godoy-Cabrera, A. de la Piedad-Beneitez, J. S. Benítez-Read, and J. O. Pacheco-Sotelo	
Interpretation of Voltage Measurements in Cutting Torches	207	Plasma-Wall Interaction Delay Time in Novillo Tokamak	270
L. Prevosto, H. Kelly, F. O. Minotti, and B. Mancinelli		R. Valencia, E. Camps, J. de la Rosa, S. Muhl, and M. Villagrán	
Hydrogen Storage in Diamond Powder Utilizing Plasma NaF Surface Treatment for Fuel Cell Applications.....	211	Some Temperature Effects on AISI-304 Nitriding in an Inductively Coupled RF Plasma	274
D. A. Leal, A. Velez, M. A. Prelas, T. Gosh, and E. Leal-Quiros		R. Valencia-Alvarado, A. de la Piedad-Beneitez, J. de la Rosa-Vázquez, R. López-Callejas, S. R. Barocio, O. G. Godoy-Cabrera, A. Mercado-Cabrera, R. Peña-Eguiluz, and A. E. Muñoz-Castro	
Ionization of CCl₄ and CCl₂F₂ by Electron Impact.....	215	The Formation and Motion of CCl₄⁻ in CCl₄ – Ar Mixture	278
B. G. Lindsay, K. F. McDonald, W. S. Yu, R. F. Stebbings, and F. B. Yousif		H. Martinez and F. B. Yousif	
PIII Plasma Density Enhancement by a New DC Power Source.....	219		
R. López-Callejas, E. E. Granda-Gutiérrez, A. E. Muñoz-Castro, R. Valencia A., S. R. Barocio, A. Mercado-Cabrera, R. Peña-Eguiluz, O. G. Godoy-Cabrera, and A. de la Piedad-Beneitez			
Optimization of a DC Vacuum Arc to Obtain Anatase Phase TiO₂ Coatings	223		
A. Kleiman, A. Márquez, and D. G. Lamas			

ASTROPHYSICAL AND SPACE PLASMAS

Radial Velocity Asymmetries from Jets with Variable Velocity Profiles	285
A. H. Cerqueira, P. F. Velázquez, A. C. Raga, M. J. Vasconcelos, and F. De Colle	
Cosmic Magnetic Fields	289
E. M. de Gouveia Dal Pino	
The KH Stability of the Supersonic Magnetopause Flanks Modeled by Continuous Profiles for the Transition	296
G. Gnavi, F. T. Gratton, C. J. Farrugia, and L. Bilbao	
Large Amplitude Perturbations and Waves at the Duskside Low Latitude Boundary Layer of the Magnetopause Generated by an Interplanetary Tangential Discontinuity on December 7, 2000	300
F. T. Gratton, C. J. Farrugia, L. Bilbao, G. Gnavi, and E. Lund	
Effects of Magnetic Clouds in Geomagnetic Activity	304
C. López-Portela and X. Blanco-Cano	
Plasma Heating in the Saturn's Magnetosphere	308
E. Martínez-Gómez, H. Durand-Manterola, and H. Pérez de Tejada	
Different Types of Plasma Turbulence in the Process of Solar Particle Acceleration	312
J. Pérez-Peraza, L. I. Miroshnichenko, E. V. Vashenyuk, Y. V. Balabin, and A. Gallegos-Cruz	
Spectrum of Accelerated Particles Derived from the 2.223 MeV Line Data in Some Solar Flares	316
L. I. Miroshnichenko, E. V. Troitskaia, and W. Q. Gan	
Adaptive Grid Simulations of Ionized Flows	320
A. C. Raga, P. F. Velázquez, F. De Colle, A. Cerqueira, M. J. Vasconcelos, A. Esquivel, R. F. González, J. Martinell, J. Herrera, P. Kajdic, J. Cantó, R. Navarro-González, M. Villagrán-Muniz, and H. M. Sobral	
Bastille Day Flare Multi-Spectral Characterization of Radio Emission Polarization from Milliseconds to Minutes Time Scale	326
R. E. Rodríguez Taboada and A. L. Méndez Berhondo	
Influence of the Hall Effect on the Mean Field Dynamo	330
M. J. Vasconcelos, A. Kandus, and A. H. Cerqueira	

CONTROLLED NUCLEAR FUSION

A Comparative Calculation of the Intrinsic Stochasticity of Tokamak Divertor Configuration	337
S. R. Barocio, E. Chavez-Alarcón, and C. Gutiérrez-Tapia	
Turbulence Induced Transport in Tokamaks	341
I. L. Caldas, F. A. Marcus, A. M. Batista, R. L. Viana, S. R. Lopes, M. V. A. P. Heller, Z. O. Guimarães-Filho, P. J. Morrison, and W. Horton	
Stochastization of Magnetic Field Surfaces in Tokamaks by an Inner Coil	347
E. Chávez-Alarcón, J. J. E. Herrera-Velázquez, and E. Braun-Gitler	

Overview of Recent Results of TCABR	350
V. Bellantani Jr., A. G. Elfimov, J. I. Elizondo, A. N. Fagundes, A. M. M. Fonseca, R. M. O. Galvão, L. Guidolin, Yu. K. Kuznetsov, E. A. Lerche, M. Machida, C. Mariz, I. C. Nascimento, C. Ribeiro, L. F. Ruchko, W. P. de Sá, E. K. Sanada, J. H. F. Severo, R. P. da Silva, V. Tsypin, O. C. Usuriaga, and A. Vannucci	
Overview of TJ-II Experiments	357
D. López-Bruna and the TJ-II Team	
ELMy Studies in ITER Relevant Regimes in ASDEX Upgrade Broadband FM-CW Reflectometry Techniques	363
M. Manso, A. Silva, P. Varela, D. Borba, P. Lang, L. Cupido, I. Nunes, G. Conway, and the ASDEX Upgrade Team	
How Plasma Configurations Determine Poloidal Magnetic Field Topology in Tokamaks	367
P. Martín and E. Castro	
Ponderomotive Effects of a High-Power EC Wave upon Perpendicular Injection in a Tokamak	373
J. J. Martinell	
Density Limit in TCABR Plasmas with Alfvén Wave Heating	377
C. Ribeiro, V. Bellintani, A. G. Elfimov, J. I. Elizondo, A. N. Fagundes, R. M. O. Galvão, Yu. K. Kuznetsov, I. C. Nascimento, E. M. Ozono, L. F. Ruchko, W. P. de Sá, E. K. Sanada, and O. C. Usuriaga	
Investigation of Dust Particle Transport in Tokamak Edge Plasma by Means of DUSTT Code	381
T. K. Soboleva, S. I. Krasheninnikov, A. Yu. Pigarov, and T. D. Rognlein	
Real-Time Plasma Control Tools for Advanced Tokamak Operation	385
C. A. F. Varandas, J. Sousa, A. P. Rodrigues, B. B. Carvalho, H. Fernandes, A. J. Batista, N. Cruz, A. Combo, R. C. Pereira, and the CFN Control and Data Acquisition Group	
DENSE MAGNETIZED PLASMAS	
Properties of Plasma Jets Emitted in Pulsed Capillary Discharges at Low Pressures	393
G. Avaria, H. Bhuyan, M. Favre, H. Chuaqui, I. Mitchell, E. Wyndham, and D. Grondona	
Anisotropy of Ion Emission from a Low Energy Plasma Focus	397
H. Bhuyan, M. Favre, H. Chuaqui, E. Valderrama, I. Mitchell, and E. Wyndham	
Plasma Properties of a DC Hollow Cathode Discharge	401
H. Bhuyan, E. Valderrama, M. Favre, H. Chuaqui, I. Mitchell, and E. Wyndham	
Cross-Calibration of Neutron Detectors for the Dense Plasma Focus FN-II Time of Flight Analysis	405
F. Castillo-Mejía, J. J. E. Herrera-Velázquez, and J. Rangel	

Z-Pinch like Experimental Arrangements.....	409
M. Favre, R. Aliaga-Rossel, A. Pernas, G. Avaria, H. Bhuyan, S. Caballero, H. Chuaqui, I. Mitchell, F. Molina, F. Suzuki, F. Veloso, and E. Wyndham	
The Dense Plasma Focus Opportunities in Detection of Hidden Objects by Using Nanosecond Impulse Neutron Inspection System (NINIS).....	415
V. Gribkov, A. Dubrovsky, L. Karpinski, R. Miklaszewski, M. Paduch, M. Scholz, P. Strzyzewski, and K. Tomaszewski	
Experimental Investigation of Ionization Waves in Fast Pulsed Capillary Discharges	419
M. Favre, A. M. Leñero, F. Suzuki, H. Chuaqui, I. Mitchell, and E. Wyndham	
Time Integrated and Time Resolved Neutron Measurements in a Plasma Focus Device	423
M. Milanese, R. Moroso, F. Castillo, J. J. E. Herrera, J. I. Golzarri, and G. Espinosa	
Neutron Emission and Angular Distribution in Compact Plasma Focus Devices Operating at Hundreds of Joules	427
P. Silva, J. Moreno, C. Pavez, F. Castillo, J. J. E. Herrera, and L. Soto	
Self-Organized Structures in Z-Pinch Devices	431
A. Ortiz-Tapia	
Measurements of Plasma Density in a Fast and Compact Plasma Focus Operating at Hundreds of Joules	435
C. Pavez, P. Silva, J. Moreno, and L. Soto	
Spectral Characteristics of the Hard X-Ray Emission from a Plasma Focus Device	438
V. Raspa, L. Sigaut, R. Vieytes, A. Clausse, and C. Moreno	
Preliminary Measurements of Neutron Emission in a Repetitive Plasma Focus Device (>3 Hz)	442
P. Silva, J. Moreno, L. Soto, and J. Arancibia	
Soft X-Ray Emission and Charged Particles Beams from a Plasma Focus of Hundreds Joules	445
P. Silva, J. Moreno, C. Pavez, L. Soto, and J. Arancibia	
Evidence of X-Ray Emission from an Ultra Miniature Pinch Focus Discharge Operating at 0.1 Joules: Nanofocus.....	449
C. Pavez, J. Moreno, and L. Soto	
Refractive Optical Measurements on the Llampüdkeñ Generator	453
F. Suzuki, F. Veloso, F. Molina, I. Mitchell, H. Chuaqui, R. Aliaga-Rossel, M. Favre, and E. Wyndham	
The Formation of Ring Shaped Laser Plasmas on a Metal Surface.....	457
F. Veloso, H. Chuaqui, R. Aliaga-Rossel, M. Favre, I. Mitchell, and E. Wyndham	
Preliminary Observations of Z-Pinch Plasma Formation within a Conducting Coil	461
E. Wyndham, M. Favre, and A. Pernas	

GENERAL THEORY AND EXPERIMENTS

A Three-Dimensional Finite Volume Arbitrary Lagrangian-Eulerian Code for Plasma Simulations	467
L. Bilbao	
Magnetized Inhomogeneous Dusty Plasma Unstable Modes	473
C. Cereceda, J. Puerta, and E. Castro	
MHD Equations for Quantum Plasmas.....	477
F. Haas	
Determination of Local Magnetic Dipole Moment of the Plasma at the PUPR Cusp-Mirror Machine	481
E. Leal-Quiros and M. Prelas	
A General Hybrid Kinetic-Fluid Model for Collisionless Magnetic Reconnection	485
J. J. Martinell	
Existence and Stability of Relativistic Solitary Waves in Warm Plasmas.....	489
M. A. Maza-Palacios and J. J. E. Herrera-Velázquez	
Determination of Plasma Parameters in the PUPR Mirror and Cusp Plasma Machine via Electrostatic Probe Methods.....	493
R. M. Meyer, M. A. Rivera, F. Colmenares, D. Leal, R. Rivera, A. Gonzales, and E. Leal-Quiros	
Non-Ideal Effects in Streaming Bi-Dust Acoustic Instability	497
J. Puerta, E. Castro, P. Martin, and H. Arias	
Spectroscopic Study of Electrical Glow Discharges in Gases.....	501
P. G. Reyes, M. Evangelista, C. Trujillo, F. Castillo, and J. Rangel	
A Dispersion Relation in Bidust Acoustic Wave in Non Uniform Stratified Plasma.....	505
E. Valdeblánquez	
Current Densities in Speed Analyzer with Different Symmetries	507
E. Valdeblánquez	
LASER INDUCED PLASMAS	
Generation and Modulation of Harmonic Emission Spectra from Intense Laser-Plasma Interactions	513
T. J. M. Boyd and R. Ondarza-Rovira	
Time Resolved Diagnostic of Dual-Pulsed Laser Ablation on Graphite Targets	519
R. Sanginés de Castro, C. Sánchez Aké, H. Sobral, and M. Villagrán-Muniz	
Comparison between Laser Initiated Hollow Gas Embedded Z-Pinches with Different Initial Radius.....	523
F. Veloso, H. Chuaqui, R. Aliaga-Rossel, M. Favre, I. Mitchell, and E. Wyndham	
Author Index	527