

# Table of Contents

<b>Stochastic Heating in Ultra High Intensity Laser-Plasma Interaction .....</b>	<b>1</b>
Alain Bourdier	
<b>A Precision 75kw, 25kv Power System for a Klystron Amplifier.....</b>	<b>2</b>
George L Bees, Lawrence Simpson and Andrew Tydeman	
<b>A Hybrid Solid State Induction Modulator for Klystrons.....</b>	<b>3</b>
Richard L. Cassel, Minh N. Nguyen, Edward G. Cook and Craig A. Brooksby	
<b>A High Power Dynamically Flexible Pulse Width Radar Modulator.....</b>	<b>4</b>
Richard L. Cassel, Sherry S. Hitchcock and Roger N. Hitchcock	
<b>Electromagnetic Implosion Using An Array .....</b>	<b>5</b>
Carl E Baum	
<b>Ferrite-Free, Oil-Switched, Four-Stage High-Gradient Module for Compact Pulsed Power Applications.....</b>	<b>6</b>
Mark A Rhodes, Jim Watson, Dave Sanders, Steve Sampayan and George Caporaso	
<b>Design and Operation of An S-Band 6% Bandwidth Multiple- Beam Klystron.....</b>	<b>7</b>
David K. Abe, Khanh T. Nguyen, Dean E. Pershing, Franklin N. Wood, Robert E. Myers, Edward L. Eisen and Baruch Levush	
<b>A Topology of On/Off Marx Modulator with Protection of Load and Solid State Switches.....</b>	<b>8</b>
Anatoly K Krasnykh	
<b>A Coreless Approaches for On/Off Marx Type Modulators .....</b>	<b>9</b>
Anatoly K Krasnykh	
<b>Ponderomotive Modification of the Electron Density Distribution in the Interaction of High Power Microwave Field with a Plasma .....</b>	<b>10</b>
Babak Shokri and Alireza Niknam	
<b>Optimal State Feedback Control for Pulsed Power Supplies.....</b>	<b>11</b>
James P Kapinski	
<b>Measurements of Air Breakdown Process Using 193 Nm Focused Laser Radiation.....</b>	<b>12</b>
Magesh Thiagarajan, John Scharer, C. Mark Denning and Siqi Luo	

<b>Source of Low-Energy High-Current Gaseous Ion Flow Based on a Discharge with Electron Injection</b> .....	13
Efim Oks, Alexey Vizir, Maxim Shandrikov, George Yushkov, Andre Anders and Dave Baldwin	
<b>Investigating Arc Instability with Binary Gas Mixture</b> .....	14
Srikumar Ghorui, Martin Vysohlid, Emil Pfender and Joachim V.R. Heberlein	
<b>A Two-Temperature Chemical Non-Equilibrium Model of An Oxygen Cutting Torch Including the Region Above the Work-Piece</b> .....	15
Srikumar Ghorui, Emil Pfender and Joachim V.R. Heberlein	
<b>Computational Techniques in Xenos - Integrated 3d Software Suite for Electron and X-Ray Physics</b> .....	16
Stanley Humphries	
<b>Multielectrode Corona Reactor for Nox Diesel Exhaust Treatment</b> .....	17
Yefim B Yankelevich, Michael Wolf, Rina Baksht and Alex Pokryvailo	
<b>Hollow Beam Klystron Design for the International Linear Collider</b> .....	18
Stanley Humphries and Patrick Ferguson	
<b>Start Up and Saturation in Monotrons</b> .....	19
Joaquim J Barroso	
<b>Finite Element Modeling of the Arc Reattachment Process in Dc Plasma Torches</b> .....	20
Juan P. Trelles, Emil Pfender and Joachim V. R. Heberlein	
<b>Fabrication Process for Bonded Multi-Layer Dual Target Assemblies Used for the Russian Damage (Rd) Series of Experiments for the Los Alamos Hedh Program</b> .....	21
Blaine Randolph	
<b>Some Effects During Narrow Focusing Beam Generation By Plasma Electron Gun in Forevacuum Pressure Range</b> .....	22
Victor A Burdovitsin, Igor S Zhirkov and Efim M Oks	
<b>Ribbon Beam Electron Gun Based on Discharge with Extended Hollow Cathode</b> .....	23
Victor A Burdovitsin, Efim M Oks, Alexander S Klimov and Yuriy A Burachevsky	

<b>Impulsive Field Near the Second Focus Along the Symmetry Axis of a Prolate-Spheroidal Ira</b> .....	24
Serhat Altunc, Carl E. Baum, Christos Christodoulou and Edl Schamiloglu	
<b>Measurements and Analysis of Advanced Field Emission Cold Cathodes</b> .....	25
Xin He, John Scharer, John Booske, Vasilios Vlahos, Sean Sengele, Nick Jordan and Ron Gilgenbach	
<b>Effect of Plasma Density on High Current Beam Extracted From a Mevva Ion Source</b> .....	26
Wei Xiang and Peter Spädtke	
<b>Research of Efficiency Enhancement in a Helix Twt with Simulated Annealing Algorithm</b> .....	27
Zhaoyun Duan, Mingyi Lü, Yubin Gong, Yanyu Wei and Wenxiang Wang	
<b>Observation of Mode Competition in An 11.4-Ghz Magnicon Amplifier</b> .....	28
Steven H Gold, Arne W Fliflet, Melissa K Hornstein and Allen K Kinkead	
<b>Biomedical Zirconia Films Synthesized By Cathodic Arc Plasma Deposition</b> .....	29
Paul K Chu, Xuanyong Liu, Anping Huang and Weifeng Li	
<b>Linear Waves in Magnetized Quantum Plasma</b> .....	30
Paul K Chu and Zhengwei Wu	
<b>Bioactivity and Corrosion Resistance of Niti After Calcium Plasma Immersion Ion Implantation</b> .....	31
Paul K Chu, Xm Liu, Sl Wu, Yl Chan, Cy Chung, Cl Chu, Kwk Yeung, Ww Lu, Kmc Cheung and Kdk Luk	
<b>Plasma Relativistic Microwave Amplifier and Oscillator</b> .....	32
Pavel Sergeevich Strelkov, Irina L. Bogdankevich, Igor E. Ivanov, Oleg T. Loza, Anatoly V. Ponomarev, Denis K. Ulyanov and Eusebio Garate	
<b>Understanding Plasma Fluid Dynamics Inside Plasma Torches Through Advanced Modeling</b> .....	33
Vittorio Colombo, Emanuele Ghedini, Silvano Dallavalle and Mauro Vancini	
<b>Development and Testing of the Ilc Marx Modulator</b> .....	34
Greg E Leyh	

<b>Repetitive Operation of High Voltage Switch Utilizing Dielectric Fluid</b> .....	35
Susan L Heidger, Don A Shiffler, W.Ray Cravey, Mitch Ruebush and Randy Curry	
<b>Consolidation of Polycrystalline Yttria Powder By Millimeter-Wave Sintering for Laser Host Applications</b> .....	36
Melissa K Hornstein, Ralph W Bruce, Arne W Fliflet, Steven H Gold, Manfred Kahn and M. Ashraf Imam	
<b>3d Simulations of the Mit Smith-Purcell Experiment</b> .....	37
Jacques Gardelle and John T Donohue	
<b>Experimental and Numerical Studies of a Magnetically Insulated Line Oscillator Working in S-Band</b> .....	38
Richard Cousin, Jean Larour, Jacques Gardelle, Bruno Cassany, Patrick Modin, Philippe Gouard and Pierre Raymond	
<b>A High-Repetition Rate Closing Switch for Emp Applications</b> .....	39
Partha Sarkar, Bucur M Novac, Ivor R Smith, Richard A Miller And Mark J Roberts	
<b>Performance Limitations of Transmission Line Oscillators for High Power Mesoband Sources</b> .....	40
J Scott Tyo, Michael C Skipper, Michael D Abdalla, Samuel P Romero and David V Giri	
<b>Current Sharing in the Early Stages of a Wire Array Z-Pinch on the Cobra Accelerator</b> .....	41
Patrick F Knapp, David A Chalenski, Jon D Douglass, John B Greenly, Ryan D Mcbride, Sergei Pikuz, Tania Shelkovenko, David A Hammer and Bruce R Kusse	
<b>Low Temperature Cooling By Thermal-Field Electron Emission in a Crossed-Field Gap</b> .....	42
Lin Wu and Kee Lay Ang	
<b>High Repetitive Pulsed Power Modulator Based on IGBT Switches for Psi Application</b> .....	43
H. J. Ryoo, J. S. Kim, G. H. Rim and G. Goussev	
<b>Side Extraction Duopigatron-Type Ion Source</b> .....	44
Vasily I. Gushenets, Efim M. Oks, Ady Hershcovitch and Brant M. Johnson	

<b>Time Dependent 3d Large Eddy Simulation of a Dc Non-Transferred Arc Plasma Spraying Torch with Particle Injection</b> .....	45
Emanuele Ghedini and Vittorio Colombo	
<b>Simple, Noninvasive and Wide-Band Current and Voltage Sensors for Use with Coaxial Cables</b> .....	46
Rajesh Kumar, Bucur M Novac and Ivor R Smith	
<b>Magnetically Insulated Pulse Transformers</b> .....	47
Marko Istenic, Bucur M Novac, Jing Luo, Rajesh Kumar and Ivor R Smith	
<b>A Simple High-Performance Exploding Wire Opening Switch</b> .....	48
Bucur M Novac, Ivor R Smith and Gerry Louvadis	
<b>Investigation of Recombination Effects in Dielectric Barrier Discharges: a Model</b> .....	49
Khalil Arshak, Ivor Guiney and Edward Forde	
<b>Dipole Rf Power From Laser Plasmas with No Dipole Moment</b> .....	50
Franklin Felber	
<b>Doppler Shift and Broadening of K- and L-Shell X-Ray Spectral Lines in Imploded Wire-Arrays on Magpie and Cobra Pulsers</b> .....	51
Sergey A Pikuz, Kate S Bell, Tatiana A Shelkovenko, Jonathan D Douglass, David A Hammer, Gareth N Hall, Sergey V Lebedev, Simon N Bland, Simon C Bott and Jeremy P Chittenden	
<b>Resonant Link Pfn Charger and Modulator Power Supply</b> .....	52
Rudy None Limpaecher and Rigoberto Rodriguez	
<b>A Hard Switch Modulator for the International Linear Collider</b> .....	53
Mike Kempkes	
<b>Commercial Pulsed Electric Field (Pef) Systems for Food and Wastewater Processing</b> .....	54
Mike Kempkes	
<b>Free Decay of Gas Temperature After Spark Extinction in a Gas Peaking Switch</b> .....	55
Xinxin Wang, Yuan Hu and Haiyun Luo	

<b>Repetitive Generation of X-Band Superradiation At 3-Gw Peak Power .....</b>	<b>56</b>
Michael I Yalandin, Sergei K Luybutin, Sergei N Rukin, Konstantin A Sharypov, Valery G Shpak, Sergei A Shunailov, Boris G Slovikovsky, Sergei P Timoshenkov, Marat R Ulmasculov, Vladislav V Rostov, Dmitrii M Grishin, Vladimir P Gubanov, and Anton A Elchaninov	
<b>Evolution of Helium Dbd At Atmospheric Pressure .....</b>	<b>57</b>
Xinxin Wang, Haiyun Luo and Zhuo Liang	
<b>Optimization and Diagnostics of Fast Pulsed High Pressure Air Constituents Plasmas .....</b>	<b>58</b>
Siqi Luo, John E Scharer, C Mark Denning and Magesh Thiyagarajan	
<b>Application of Ies Pulsed Power Generator for Mushroom Cultivation .....</b>	<b>59</b>
Koichi Takaki, Kyosuke Kanesawa, Nobuyuki Yamazaki, Seiji Mukaigawa, Tamiya Fujiwara, Kyusuke Takahashi, Kazuo Yamashita and Kenichi Nagane	
<b>Compact Ka-Band Generator of Microwave Superradiative Pulses .....</b>	<b>60</b>
Michael I Yalandin, Konstantin A Sharypov, Valery G Shpak, Sergei A Shunailov, Marat R Ulmasculov, Vladislav V Rostov and Gennady A Mesyats	
<b>On the Mechanism of Picosecond Electron Beam Generation in Gas-Filled Diode with Cold Cathode .....</b>	<b>61</b>
Michael I Yalandin, Konstantin A Sharypov, Valery G Shpak, Sergei A Shunailov and Gennady A Mesyats	
<b>Diffusion of Electromagnetic Field Into the Core of Inductor At Induction Accelerator of Electrons .....</b>	<b>62</b>
Volodymyr T Chemerys and Iren Borodiy	
<b>Direct Measurements of Electron Beams in Symmetric and Asymmetric X Pinches .....</b>	<b>63</b>
Tatiana A Shelkovenko, Sergey A Pikuz, Isaac C Blesener, Albert R Mingaleev, Bruce R Kusse and David A Hammer	
<b>Density Measurements in the Ablation Plasma of Tungsten Wire- Array Z-Pinches .....</b>	<b>64</b>
Jon D Douglass, Sergei A Pikuz, Tatiana A Shelkovenko, Kate S Bell, Patrick F Knapp, Ryan D Mcbride and David A Hammer	

<b>Influence of Streamer-To-Glow Transition in Nox Removal Using Pulsed Power Generator with Sos Diodes .....</b>	<b>65</b>
Koichi Takaki, Kyosuke Kanesawa, Seiji Mukaigawa, Tamiya Fujiwara and Tomio Go	
<b>Influence of No Initial Concentration on Removal Efficiency in Dielectric Barrier Discharge Reactor .....</b>	<b>66</b>
Koichi Takaki, Taiki Sato, Seiji Mukaigawa and Tamiya Fujiwara	
<b>Production of Nitrogen-Containing Carbon Plasma Using Shunting Arc Discharge for Carbon Nitride Films Preparation .....</b>	<b>67</b>
Koichi Takaki, Keigo Imanishi, Seiji Mukaigawa, Tamiya Fujiwara, Yoshiyuki Suda and Ken Yukimura	
<b>Surface Properties Changes Induced By Pulsed Plasma Flows .....</b>	<b>68</b>
Anuar M. Zhukeshov, Baurjan M. Ibraev and Asylgul T. Gabdullina	
<b>Experimental Research on the Voltage Distribution of Tesla Transformer'S Taper Windings .....</b>	<b>69</b>
Mingjia Li, Qiang Kang, Anbi Chang and Jiaqi Xin	
<b>A Rogowski Coil for Measurement of Fast Current Pulse .....</b>	<b>70</b>
Rui Liu, Jianqiang Yuan, Naigong Zeng, Xiaobing Zou and Xinxin Wang	
<b>Development of a Heavy Duty Pulsed Power Generator with Ten Spark Gap Switches .....</b>	<b>71</b>
Zhen Liu, Guus Pemen, Hans Winands, Bert Van Heesch and Keping Yan	
<b>Experimental Comparison of Time-Of-Flight Mass-Analysis with Magnetic Mass-Analysis .....</b>	<b>72</b>
Vasily I Gushenets, Alexey S Bugaev, Efim M Oks, Ady Hershcovitch, Timur V Kulevoj and Ian G Brown	
<b>State of the Art in Pulse-Repetitive Generation of Gw-Level Superradiative Pulses .....</b>	<b>73</b>
Vladislav V Rostov, Konstantin V Afanasev, Nikolai M Bykov, Anton A Eltchaninov, Alexei I Klimov, Oleg B Kovalchuk, Victor O Kutenkov, Gennady A Mesyats, Valerii G Shpak and Mihail I Yalandin	
<b>Investigating Intensities of Very High Voltage Rise Dv/Dt Pulsed Power Source in Atmospheric Microplasma .....</b>	<b>74</b>
Siti Khadijah, Tetsuya Akitsu, Tomohiro Otagawa, Shinsuke Yamazaki and Takeki Sakurai	

<b>Determination of Electron Density and Temperature in Atmospheric Helium Dbd Plasma By Spectroscopic Diagnostics .....</b>	<b>75</b>
Zhuo Liang, Xinxin Wang, Haiyun Luo and Zhicheng Guan	
<b>A Laser Triggered High Pressure Gas Switch for Microwave Compression.....</b>	<b>76</b>
Kongyin Gan	
<b>Electrical and Thermal Characteristics of a Nonthermal Atmospheric Pressure Plasma Plume .....</b>	<b>77</b>
Niculae Georgescu	
<b>Solid-State Upgrade for the Cobra Judy S-Band Phased Array Radar .....</b>	<b>78</b>
Mike Kempkes, Marcel Gaudreau, Jeffrey Casey, Timothy Hawkey, James Mulvanwy and Robert Herron	
<b>High-Voltage Pulse Generations By Power Conditioning of Flux Compression Generators.....</b>	<b>79</b>
Jeonghyeon Kuk, Dongwoo Yim, Jingi Kim and Cheonho Kim	
<b>Transition Between Anode Attachment Modes in a High Intensity Transferred Argon Arc .....</b>	<b>80</b>
Guang Yang and Joachim Heberlein	
<b>Comparison of Antibacterial Effect in Atmospheric Pressure Plasmas Excited with Fast-Rising Voltage Pulse .....</b>	<b>81</b>
Tetsuya Akitsu and Keiko Katayama-Hirayama	
<b>Innovations and Fundamental Insights of Advanced Field Emission Cathodes for High Power Microwave (Hpm) Sources .....</b>	<b>82</b>
John H Booske, Xin He, Ryan L Miller, Dane Morgan, John E Scharer, Vasilios Vlahos, Ronald M Gilgenbach, Nicholas Jordan, Yue-Ying Lau, Yang Feng and John Verboncoeur	
<b>Optical Streak Camera-Based Studies of Wire-Array Z-Pinch Implosion Dynamics on the 1-Ma Cobra Pulsed Power Generator .....</b>	<b>83</b>
Ryan D McBride, Kate S Bell, Isaac C Blessener, David A Chalenski, Jon D Douglass, John B Greenly, Patrick F Knapp, Sergei A Pikuz, Tania A Shelkovenko, Yu Tao Zhao, Todd Blanchard, Albert R Mingaleev, Harold Wilhelm, David A Hammer, Bruce R Kusse	
<b>Magnetic Field Measurements in Wire-Array Z-Pinches Using Magnetoactive Materials .....</b>	<b>84</b>
Wasif Syed, David A Hammer and Michal Lipson	



<b>Measurements of Electron Beam Intensity and Characteristic Line Radiation From Wire Array Z-Pinches on the 1 Ma Cobra Pulsed-Power Generator .....</b>	<b>85</b>
Kate S. Bell, Tatiana A. Shelkovenko, Sergey A. Pikuz, David A. Hammer, Jonathan D. Douglass, Ryan D. McBride, John B. Greenly and Albert R. Mingaleev	
<b>Massive Conductor Impedance and Peculiarities of Transients in Electrical Circuits with Massive Conductors of Pulsed Power Facilities.....</b>	<b>86</b>
Bois E. Fridman and Rustam Sh. Enikeev	
<b>Effective Current Enhancement Vs. Aspect Ratio for Rectangular Ridge Cathodes.....</b>	<b>87</b>
Ryan Miller, Yue Ying Lau and John Booske	
<b>Plasma Particle Analysis on and Near the Surface in Barrier Discharges Usin Laser-Based Measurement.....</b>	<b>88</b>
Takeki Sakurai	
<b>Nanosize Powders of Zinc Oxide Produced By Electrical Explosion of Zinc Wires .....</b>	<b>89</b>
Zhiguo Mao, Xiaobing Zou, Xiao Liu and Xinxin Wang	
<b>Electrical Conductivities of Nonideal Iron and Nickel Plasmas.....</b>	<b>90</b>
Inho Kim, Sung-Hyun Baek and Deok-Kyu Kim	
<b>Collimated Ion Beam By a Laser-Illuminated Tailored Target.....</b>	<b>91</b>
Shigeo Kawata, Masaki Nakamura, Ryo Sonobe, Shuji Miyazaki, Naoki Onuma and Takashi Kikuchi	
<b>Repetitively-Pulsed Relativistic Bwo with Enhanced Mechanical Frequency Tunability .....</b>	<b>92</b>
Evgenii M Totmeninov, Sergey A Kitsanov, Alexey I Klimov, Ivan K Kurkan, Sergey D Polevin and Vladislav V Rostov	
<b>Measurement of Parameters of X-Band High Power Microwave Superradiative Pulses .....</b>	<b>93</b>
Alexey I Klimov, Oleg B Kovalchuk, Vladislav V Rostov and Alexander N Sinyakov	
<b>Atomospheric Discharge Using a High Power Millimeter Wave and Its Application To Rocket Propulsion .....</b>	<b>94</b>
Yasuhisa Oda, Kimiya Komurasaki, Koji Takahashi, Atsushi Kasugai and Keishi Sakamoto	

<b>Influence of Image Charge Potential on High Current Field Emitted Electron Flows in a Nano-Diode</b> .....	95
Wee Shing Koh and Lay-Kee Ang	
<b>Cold-Cathode Magnetron Gun with a Beam Current More Than Kiloampere in Self-Supporting Secondary Emission Mode At Relativistic Voltage</b> .....	96
Sergiy A Cherenshchykov and Mikolay I Gaponenko	
<b>Extraction of Secondary Electron Emission Coefficients From the Collapse Ion Sheath Current Curve in Plasma Immersion Ion Implantation</b> .....	97
Dixon Tk Kwok, Shihao Pu, Ricky Ky Fu, Fanya Jin and Paul K Chu	
<b>Bacterial Inactivation By Pulsed Corona Discharge in Water</b> .....	98
Petr Lukes, Martin Clupek, Vaclav Babicky and Tomas Vykouk	
<b>Design of An Ultra Compact Uwb Pulse Former</b> .....	99
Benoît Martin, Philippe Delmote and Bernard Jecko	
<b>Different Mechanisms of Shock Wave Generation and Breakdown Upon Electrical Explosion of Thin Wires in Open Air</b> .....	100
Svetlana I Tkachenko, Denis V Barishpoltsev, Georgy V Ivanenkov, Vera M Romanova, Alexey E Ter-Oganesyan, Albert R Mingaleev, Tatiana A Shelkovenko and Sergey A Pikuz	
<b>Plasma Immersion Ion Implantation with Lithium Ions</b> .....	101
Rogerio M Oliveira, Mario Ueda, Jose O Rossi and Beatriz L.D. Moreno	
<b>Application of Derived Characteristics of Magnetic Cores To 3-Staged Mpc Simulation</b> .....	102
Jaegu Choi, Takao Namihira, Takashi Sakugawa, Sunao Katsuki and Hidenori Akiyama	
<b>Paprametric Survey on No Removal in An Intermittent Dielectric Barrier Discharge By One-Cycle Sinusoidal Power Source</b> .....	103
Ken Yukimura, Hiroshi Murakami and Masayuki Itoh	
<b>Investigation of High-Harmonic Gyrotrons with Frequency-Doubled Prebunched Beams</b> .....	104
Arne W Fliflet, Melissa K Hornstein and Steven H Gold	
<b>On the Existence of Resistive Instabilities of Line-Tied Modes in Cylindrical Geometry</b> .....	105
Gian Luca Delzanno, Evstati G Evstatiev and John M Finn	

<b>The Veloce Pulsed Power Generator for Isentropic Compression Experiments .....</b>	<b>106</b>
Tommy Ao, Randy Hickman, Clint Hall, James Asay and Sophie Chantrenne	
<b>Attraction of Dust Grains in a Nebula .....</b>	<b>107</b>
Elisa Franceschini, Gian Luca Delzanno and Giovanni Lapenta	
<b>Energy Storage Capacitor Cell with Semiconductor Switches .....</b>	<b>108</b>
Bois E. Fridman, Valeri A. Belyakov, Edward N. Bondarchuk, Alexander T. Chegodaev, Anatoli A. Drozdov, Rustam Sh. Enikeev, Nikolai A. Kovriznyh, Vitali P. Muratov, Vasili Ph. Prokopenko, Alexander G Roshal, Yuri V. Aristov, Sergei V. Korotkov, Genadi D.	
<b>Fabrication of Long Length Thin Walled Liners for Use in Compression Physics Experiments .....</b>	<b>109</b>
Franklin Fierro	
<b>Gyrotron Collective Thomson Scattering Diagnostics of Fast Ions in Textor and Asdex Upgrade.....</b>	<b>110</b>
Paul P Woskov, Søren B Korsholm, Henrik Bindslev, Frank Leipold, Fernando Meo, Poul K Michelsen, Susanne Michelsen, Stefan K Nielsen, E Westerhof, J W Oosterbeek, J Hoekzema, Fritz Leuterer and Dietmar Wagner	
<b>Estimating the Reliability of the Llnl Flash X-Ray (Fxr) Machine.....</b>	<b>111</b>
Mike M Ong, Ron Kihara, Jan M Zentler, Blake R Kreitzer and William J Dehope	
<b>Current Loop Gate Driver Circuit for Pulsed Power Supply Based on Semiconductor Switches.....</b>	<b>112</b>
H.J. Ryoo, J.S Kim, G.H Rim, D Sytykh and G. Goussev	
<b>Optical Observations of Transient Plasmas .....</b>	<b>113</b>
Charles Cathey, Andras Kuthi, Martin Gundersen and Jose Sinibaldi	
<b>Calculation and Analysis on Electric Field of High Gradient Insulator.....</b>	<b>114</b>
Chengyan Ren, Weiqun Yuan, Ping Yan, Jue Wang and Jinhua Wang	
<b>A Half-Cell Weighting Method for Multiple-Grid Pic Simulation .....</b>	<b>115</b>
Dixon T. K. Kwok and Christophe Cornet	
<b>A Phasor and Particle Model for Coupling Between An Auto-Matching Network and Electrical Plasma .....</b>	<b>116</b>
Dixon T. K. Kwok	

<b>Matching a Pulsed Power Modulator To a Corona Plasma Reactor .....</b>	<b>117</b>
G.J.J. Winands, A.J.M. Pemen, E.J.M. Van Heesch, Zhen Liu and K. Yan	
<b>Solid-State Repetitive Sos-Based Generators Providing a Peak Power of Gw-Range .....</b>	<b>118</b>
Sergei N Rukin, Alexei I Bushlyakov, Sergei K Lyubutin, Andrey V Ponomarev, Boris G Slovikovsky, Sergei P Timoshenkov and Sergei N Tsyranov	
<b>The Effect of Pulsed Streamer-Like Discharge in Liquid on Transcriptional Activation of Retrotransposon Genes of a Red Alga, Porphyra Yezoensis .....</b>	<b>119</b>
Takeshi Ohno, Zi Li, Xf Lin, Wb Zhang, Hiroyoshi Takano, Susumu Takio, Takao Namihira and Hidenori Akiyama	
<b>Underwater Electrical Wire Explosion .....</b>	<b>120</b>
Yakov E Krasik, Alon Grinenko, Sergey Efimov, Arkady Sayapin, Alexander Fedotov, Victor Tz Gurovich, Dekel Veksler, Joshua Felsteiner and Vladimir Oreshkin	
<b>Plasma Emission Sources for High-Current Electron Beam Generation.....</b>	<b>121</b>
Yakov E Krasik, Dmitry Yarmolich, Joseph Gleizer, Vladislav Vekselman, Yoav Hadas and Joshua Felsteiner	
<b>Nonstationary Simulation of Electron Beam Interaction with Coupled Resonant Microwave Oscillators .....</b>	<b>122</b>
Nikita M. Ryskin and Vladimir N. Titov	
<b>Using Controlling Chaos Technique To Suppress Self-Modulation in a Delayed Feedback Traveling Wave Tube Oscillator .....</b>	<b>123</b>
Nikita M. Ryskin and Oleg S. Khavroshin	
<b>Swarm Optimization of Pulsed Power Circuit Models .....</b>	<b>124</b>
Mark A Kemp and Scott D Kovaleski	
<b>Effect of Piezoelectric Resonance in a Ferroelectric Plasma Source .....</b>	<b>125</b>
Mark A Kemp and Scott D Kovaleski	
<b>Optimization of the Ferroelectric Plasma Thruster for Microspacecraft Propulsion .....</b>	<b>126</b>
Mark A Kemp and Scott D Kovaleski	
<b>The Experimental Tests of Thz Range Gyrotron with Pulsed Magnetic Field.....</b>	<b>127</b>
Mikhail Yu. Glyavin and Alexey G. Luchinin	

<b>Processing of Films and Fabrics with the Mod-Viii Roll-To-Roll One Atmosphere Uniform Glow Discharge Plasma (Oaugdp®) Reactor .....</b>	<b>128</b>
Zhe Chen, Qingquan Li, Xin Dai, Truman Bonds and John Reece Roth	
<b>Positive Polarity Effects on 16-Wire Cylindrical Z-Pinches .....</b>	<b>129</b>
David A Chalenski, John B Greenly, Ryan McBride and Bruce R Kusse	
<b>Long Uv Pulse Propagation in the Atmosphere.....</b>	<b>130</b>
Alain Bourdier, A. Binet, O. Chalus, J.C. Diels, P. Guimbal and V. Le Flanchec	
<b>On the Theory of Low-Frequency Oscillations in Gyrotrons.....</b>	<b>131</b>
Thomas M Antonsen, Gregory S Nusinovich, Oleksandr V. Sinitsyn, Murali Yeddulla and Kazuo Minami	
<b>Single Wire Electrode Contacts and Their Effects on Energy Deposition .....</b>	<b>132</b>
Clayton Myers, Peter C Schrafel, David A Chalenski and Bruce R Kusse	
<b>Mode Switching in a Gyrotron with Azimuthally Corrugated Resonator .....</b>	<b>133</b>
Gregory S. Nusinovich, Oleksandr V. Sinitsyn and Thomas M. Antonsen Jr	
<b>Parallel X Pinches and the Affect of Polarity.....</b>	<b>134</b>
Isaac C Blesener, Tatiana A Shelkovenko, Sergey A Pikuz and Bruce R Kusse	
<b>Laser-Induced Fluorescence and Probe Measurements on An Argon Helicon Plasma with Magnetic Nozzle .....</b>	<b>135</b>
C Mark Denning, John E Scharer and Matt Wiebold	
<b>Development and Suppression of Instability in Post-Discharge Channel .....</b>	<b>136</b>
Sergey B Leonov and Mikhail N Shneider	
<b>High Current Linear Transformer Driver (Ltd) Experiments .....</b>	<b>137</b>
Michael G. Mazarakis, William E. Fowler, Dillon H. Mcdaniel, Craig L. Olson, Sonrisa T. Rogowski, Robin A. Sharpe, Kenneth W. Struve, Alexander A. Kim, Vadim A Sinebryukhov, Alexander N. Bostrikov, Sergey N. Volkov, Vjacheslav G. Durakov and Ron M. Gilg	
<b>Modeling Dynamic Magnetically Insulated Transmission Line Flow in a Transmission Line Code.....</b>	<b>138</b>
Joseph W. Schumer, Paul F. Ottinger, David D. Hinshelwood and Ray J. Allen	

<b>Environmental Applications of Pulsed Electrical Discharge in Bubbled Water .....</b>	<b>139</b>
Oksana Mozgina, Sophia Gershman, Abe Belkind, Kurt Becker, Sagar Shah and Christos Christodoulatos	
<b>Ceramic-Polymer Composite for High Energy Density Capacitors .....</b>	<b>140</b>
John Borchardt, Jeff Alexander, Kirk Slenes and Rafael De La Fuente	
<b>Simulation of the Radiative Emission From Targets Irradiated By Intense Short-Pulse Lasers Based on Lsp Pic Code Calculations.....</b>	<b>141</b>
Joseph J. Macfarlane, P. Wang, I. E. Golovkin, P. R. Woodruff, D. R. Welch, T. P. Hughes, R. C. Mancini and R. J. Town	
<b>Radiation Measurement Accuracy of Z-Dynamic Hohlräume.....</b>	<b>142</b>
George C Idzorek, Thomas E Tierney and Robert G Watt	
<b>Optical Emission Spectroscopy of a Pulsed Electrical Discharge in Gas Bubbles in Water.....</b>	<b>143</b>
Sophia Gershman, Oksana Mozgina, Abe Belkind, Sagar Shah and Kurt Becker	
<b>Low Impedance Z-Pinch Drivers Without Post-Hole Convolute Current Adders .....</b>	<b>144</b>
David B. Seidel, Mark E. Savage and Clifford W. Mendel Jr.	
<b>Pulsed Low Energy Electron Sources for Material Surface Modification .....</b>	<b>145</b>
Sergey A. Korenev and Rolland P. Johnson	
<b>Fitting the Nonlinear <math>F_n</math> Plots of Field-Emission Strips with a Self-Consistent Parallel Plane Model.....</b>	<b>146</b>
Yi-Huan Liao and Ming-Chieh Lin	
<b>Non-Axisymmetric Slowed Structure and Plasma Modes in a Waveguide with a Dielectric Rod and Magnetized Plasma.....</b>	<b>147</b>
Anatoli S. Shlapakovski and Mikhail Yu. Krasnitsky	
<b>The Electrical Nature of Comets .....</b>	<b>148</b>
Wallace W Thornhill	
<b>Was the 1908 Tunguska Explosion An Electrical Event? .....</b>	<b>149</b>
Wallace W Thornhill and Clarence J Ransom	
<b>The Plasma Plus Gravity Universe May Not Need Dark Matter .....</b>	<b>150</b>
Clarence J Ransom and Meldon Acheson	

<b>Pfma-1: a 1-Hz, 150-Kj Pulsed Power System for Plasma Focus Generation .....</b>	<b>151</b>
Federico Rocchi, Marco Sumini, Domiziano Mostacci, Simone Mannucci, Agostino Tartari, Ergisto Angeli and Robert E Beverly Iii	
<b>3-D Reconfiguration of Electromagnetic Field in Multiwave Cerenkov Generator .....</b>	<b>152</b>
Vladimir A Cherepenin and Vladimir N Kornienko	
<b>A Simple Model for Pre-Breakdown Over-Voltage and Methods for Analysis of Switching Diagnosis on Early Stages of Pfma1 Discharge.....</b>	<b>153</b>
Federico Rocchi, Simone Mannucci, Marco Sumini, Domiziano Mostacci, Agostino Tartari and Ergisto Angeli	
<b>N2 and O2 Coatings of Afx ... Membranes By Microwave Discharge .....</b>	<b>154</b>
Selcuk Helhel	
<b>Experimental Modeling on the Recyclable Magnetically Insulated Transporting Lines Aimed At the Ife Reactor .....</b>	<b>155</b>
Yurii G. Kalinin, Sergey S. Anan, Yurii L. Bakshaev, Alexander V. Bartov, Petr I. Blinov, Andrei S. Chernenko, Evgenii D. Kazakov, Alexander S. Kingsep, Valerii D. Korolev, Valerii I. Mizhiritsky, Valentin P. Smirnov, M Mazarakis and C Olson	
<b>the Impact of Molecular Radiation Processes in Water Plasma on Performance of Water-Vortex and Hybrid-Stabilized Electric Arcs.....</b>	<b>156</b>
Jiri Jenista, Milada Bartlová and Vladimír Aubrecht	
<b>Repetitive All Solid State Pulse Marx Type Generator with Energy Recovery Clamp Circuit for Inductive Loads.....</b>	<b>157</b>
Luis M S Redondo and Marcos T Pereira	
<b>Quantitative Analysis of Gas Circuit Breaker Physics Through Direct Comparison of 3d Simulations with Measurements.....</b>	<b>158</b>
Nils P Basse, Margarita Abrahamsson, Martin Seeger and Torsten Votteler	
<b>Time Resolving Study of D-D Reaction .....</b>	<b>159</b>
Pavel Kubes, Daniel Klir, Jozef Kravarik, Karel Rezac, Irena Ivanova...Stanik, Leslaw Karpinski, Marian Paduch, Marek Scholz, Hellmut Schmidt and Marek J. Sadowski	
<b>Reconstruction of D-D Neutron Energy Spectra with a Small Number of the Time-Resolved Neutron Detectors.....</b>	<b>160</b>
Karel Rezac, Daniel Klir, Pavel Kubes and Jozef Kravarik	

<b>Impedance Matching of a Coaxial Marx Generator with a Relativistic Field Emission Limited Diode .....</b>	<b>161</b>
Kuan-Lin Peng and Ming-Chieh Lin	
<b>The Insulator At the Front of a Pulsed Power Machine .....</b>	<b>162</b>
John G Leopold, Chaim Leibovitz, Itamar Navon, Eyal Hillel, Avner Paz and Meir Markovits	
<b>B-Dot Detector Signal Recording At the Darht Ii Accelerator.....</b>	<b>163</b>
Jeffrey B Johnson, Carl A Ekdahl and William B Broste	
<b>Interaction Mechanism of a Field Emission Based Terahertz Generator .....</b>	<b>164</b>
Pu-Shih Lu and Ming-Chieh Lin	
<b>Ab-Initio Calaulations on Work Functions of Cathode Surfaces with Adsorbed .....</b>	<b>165</b>
Wei-Chih Lin and Ming-Chieh Lin	
<b>Impact of Load Variations on the Stagnation of Nested Stainless Steel and Copper Z Pinches.....</b>	<b>166</b>
Christine A Coverdale, C. Deeney, B. Jones, P. D. Lepell, A. L. Velikovich, J. W. Thornhill, J. Davis, Y. K. Chong, R. W. Clark, J. P. Apruzese, K. G. Whitney and J. Chittenden	
<b>A Plasma Microwave Barrier That Opens in Microseconds .....</b>	<b>167</b>
Ted Anderson, Igor Alexeff, Esmaeil Farshi, Naresh Karnam, Eric P Pradeep and Nanditha R Pulasani	
<b>Plasma Tubes Intercept Microwave Radiation Independent of Polarization .....</b>	<b>168</b>
Igor Alexeff, Ted Anderson, Esmaeil Farshi, Naresh Karnam, Eric P Pradeep and Nanditha R Pulasani	
<b>Studies of Precursor Plasma Conditions for Stainless Steel and Copper Wire Arrays At the 1-Ma Zebra Facility.....</b>	<b>169</b>
Christine A Coverdale, C. Deeney, B. Jones, D. J. Ampleford, P. D. Lepell, A. S. Safronova, V. Kantsyrev, N. Ouart, V. V. Ivanov, A. Haboub, K. Williamson, I. Shrestha and G. Osborne	
<b>Surface Treatment of Fpd Glass Substrates By a Uniform Cold Plasma Tunnel At Atmospheric Pressure .....</b>	<b>170</b>
Xiangyu Xu, Shouguo Wang and Lingli Zhao	
<b>An Operating Intelligent Plasma Antenna .....</b>	<b>171</b>
Ted Anderson, Igor Alexeff, Esmaeil Farshi, Naresh Karnam, Eric P Pradeep, Nanditha R Pulasani and Jeff Peck	



<b>An Experimental Study on Non-Uniform and Asymmetric Expansion of the Armature.....</b>	<b>172</b>
Bi Wu, Qingming Zhang and Yuanhang He	
<b>Analysis and Comparison of Symmetrical Rogowski Coils in High Magnetic Filed Environment .....</b>	<b>173</b>
Bi Wu, Qingming Zhang and Yuanhang He	
<b>Modeling of Mode Interaction in Cylindrical and Coaxial High-Power Gyrotrons Using Magy .....</b>	<b>174</b>
Alexander N Vlasov, Igor A Chernyavskiy, Thomas M Antonsen Jr., Gregory S Nusinovich, Oleksandr V Sinityn and Baruch Levush	
<b>A Portable Micro-Plasma Plume Source .....</b>	<b>175</b>
Shouguo Wang, Xiangyu Xu, Cai Liu and Lingli Zhao	
<b>Reduction of Electron Flow Current and Localized Anode Energy Deposition in Transitions From Coaxial Feeds To a Disk.....</b>	<b>176</b>
William L Langston and Timothy D Pointon	
<b>Study of Radiating Z Pinches and «Baikal» Project.....</b>	<b>177</b>
Eugene V Grabovski, Vladimir V Alexandrov, Vjacheslav A Afanasyev, Pavel V Sasorov and Valentine P Smirnov	
<b>Chamberless Plasma Enhanced Chemical Vapor Deposition of Bpsg Films .....</b>	<b>178</b>
Shouguo Wang, Xiangyu Xu, Minghui Yin and Lingli Zhao	
<b>Pic Simulations of Dust Charging in the Presence of a Magnetic Field.....</b>	<b>179</b>
Chris Fichtl, Giovanni Lapenta and Marlene Rosenberg	
<b>Pulsed Power Experiments At the Kurchatov Institute Aimed At Icf.....</b>	<b>180</b>
Alexander S. Kingsep, Sergey S. Anan <sup>□</sup> Ev, Yurii L. Bakshaev, Alexander V. Bartov, Peter I. Blinov, Andrei S. Chernenko, Sergey A. Danko, Georgii I. Dolgachev, Yurii G. Kalinin, Evgevii D. Kazakov, Valerii D. Korolev, Dmitrii D. Maslennikov, Valerii I. Miz	
<b>Static-Discharges Give Clue To Crater Chain Formation.....</b>	<b>181</b>
Z. Dahlen Parker	
<b>Capex-U Device - Driver for Discharge-Based Soft X-Ray Lasers with Wavelength &lt; 15 Nm.....</b>	<b>182</b>
Karel Kolacek, Oleksandr Frolov, Vaclav Prukner, Jiri Schmidt and Jaroslav Straus	

<b>Darht-Ii Long-Pulse Electron Beam.....</b>	<b>183</b>
Carl Ekdahl, E. Orlando Abeyta, Paul Aragon, Rita Archuleta, Richard Bartsch, Dale Dalmas, Kevin Esquibel, Robert Gallegos, James Harrison, Jeffrey Johnson, Edward Jacquez, B. Trent Mccuistian, Nicholas Montoya, Subrato Nath, Manolito Sanchez, Raymond Sc	
<b>Flash X-Ray Diffraction System for Ultrafast Temperature and Phase Transition Measurements .....</b>	<b>184</b>
Dane V. Morgan, Don R. Macy, Michael J. Madlener and Jiaming G. Morgan	
<b>Advanced Pic Algorithm with Adaptive Meshless Field Solver .....</b>	<b>185</b>
Sergei A. Galkin, Brian P. Cluggish, Jin-Soo Kim and Sergei Yu. Medvedev	
<b>A Single Channel Discharge Reactor for the Diagnosis of Dielectric Barrier Discharge Reactors .....</b>	<b>186</b>
Shuiliang Yao and Yuichi Fujioka	
<b>Generation of Terawatt Lasers Using Raman Backscattering in Plasmas.....</b>	<b>187</b>
Min S Hur and Hyyong Suk	
<b>Analytical Method for Calculation of Currents Produced By Shock Wave Ferromagnetic Generators.....</b>	<b>188</b>
Evgueni F Talantsev, Sergey I Shkuratov, Jason Baird, Larry L Altgilbers and Allen H Stults	
<b>Compact Autonomous Completely Explosive Pulsed Power System.....</b>	<b>189</b>
Sergey I Shkuratov, Evgueni F Talantsev, Jason Baird, Larry L Altgilbers and Allen H Stults	
<b>Explosive-Driven Mini-System Based on Shock Wave Ferromagnetic Seed Source and Loop Magnetic Flux Compression Generator .....</b>	<b>190</b>
Sergey I Shkuratov, Evgueni F Talantsev, Jason Baird, Larry L Altgilbers and Allen H Stults	
<b>Operation of the Longitudinal Shock Wave Ferroelectric Generator Charging a Capacitor Bank: Experiments and Digital Model .....</b>	<b>191</b>
Sergey I Shkuratov, Evgueni F Talantsev, Jason Baird, Andrey V Ponomarev, Larry L Altgilbers and Allen H Stults	
<b>Multipactor Discharge in a Dielectric-Loaded Accelerating Structure.....</b>	<b>192</b>
Lin Wu and Lay Kee Ang	
<b>Ultrashort Electron Pulse At Space-Charge-Limited Condition.....</b>	<b>193</b>
Peng Zhang and Lay Kee Ang	

<b>Space-Charge-Limited Electron Flow in a Drift Space</b> .....	194
Peng Zhang, Wee Shing Koh and Lay Kee Ang	
<b>Atmospheric Pressure Transient Micro Glow Discharge Driven By Burst Pulse Generator with Nonlinear Transmission Line</b> .....	195
Shinji Ibuka, Fumitaka Furuya, Kenji Ogura, Koichi Yasuoka and Shozo Ishii	
<b>Generation of Microplasma By Pulsed Discharge of a Liquid Filament</b> .....	196
Naoki Shirai, Koki Matsui, Shinji Ibuka, Kochi Yasuoka and Shozo Ishii	
<b>Radiation Distribution of Argon and Nitogen Plasma Arc for Fly Ash Melting</b> .....	197
Takuro Miyajima, Toru Iwao, Motoshige Yumoto, Shinichi Tashiro and Manabu Tanaka	
<b>Electrode Attachment of Dc Free Arc Between a Pair of Parallel Conductors in Argon and Nitrogen</b> .....	198
Yoshihito Hayashi, Toru Iwao and Motoshige Yumoto	
<b>Potential Applications of Tandem Shock Waves in Cancer Treatment</b> .....	199
Pavel No Sunka, Vitalyi No Stelmashuk, Jiri No Benes, Pavla No Pouckova and Jarmila No Kralova	
<b>Radiation Efficiency of Argon Plasma Arc Near 200a</b> .....	200
Masato Okubo, Toru Iwao and Motoshige Yumoto	
<b>Temperature and Radiation Distriubution of Horizontally Opposed Argon Twin Torch Plasma Arc</b> .....	201
Keiichiro Iwase, Toru Iwao, Motoshige Yumoto, Shinichi Tashiro and Manabu Tanaka	
<b>Study on the Discharge Modes in a Microplasma Device with the Auxiliary Electrode</b> .....	202
Seung Hun Kim, Jeonghun Mun and Kyungcheol Choi	
<b>the Digital Matching Network for a Ferromagnetic Inductively Coupled Plasma Driven At 400khz</b> .....	203
Sung Won Cho, Jin Young Bang, Young Kwang Lee and Chin Wook Chung	
<b>Microsecond Planar Wire Array Implosions on the Git-12 Generator</b> .....	204
Alexander V Shishlov, Stanislav A Chaikovsky, Anatoly V Fedunin, Fedor I Fursov, Vladimir A Kokshenev, Nikolai E Kurmaev, Aleksey Yu Labetsky, Vladimir I Oreshkin, Alexander G Rousskikh and Natalia A Zhidkova	

<b>Redesign and 3d-Simulation of the Quasi-Optical Mode Converter for a Te<sub>22,6</sub> 118 Ghz Gyrotron</b> .....	205
Oliver Prinz, Andreas Arnold, Guenter Dammertz and Manfred Thumm	
<b>Measurements of Temperature and Chemical Composition in a Thermal Plasma Reactor for Waste Gas Pyrolysis</b> .....	206
Hyun Seok Lee, Sooseok Choi, Chan Min Lee and Sang Hee Hong	
<b>Coupled Dynamics of Neutrals and Plasma</b> .....	207
Amnon Fruchtman, Gennady Makrinich, Jean-Luc Raimbault, Laurent Liard, Pascal Chabert and Jean-Marcel Rax	
<b>Measurements of the Enclosed Electric Power At Compression of Wire Arrays on Installation "Angara-5-1"</b> .....	208
Vladimir V Aleksandrov, Igor N Frolov and Eugene V Grabovski	
<b>Shadowgraphic and Euv Emission Studies of Low Energy Miniature Plasma Focus Device</b> .....	209
Syed M Hassan, Rajdeep S Rawat, Tao Zhang, Shahid Mahmood, Jiayi Lin, Fariha Malik, Staurt V Springham, Tuck L Tan and Paul Lee	
<b>Design and First Tests of Five 100 Gw Fast Ltd Cavities Into An E-Beam Diode Load</b> .....	210
Alexander A. Kim, Vadim A. Sinebryukhov, Boris M. Kovalchuk, Alexander N. Bostrikov, Vjacheslav G. Durakov, Sergey N. Volkov, Sergey V. Frolov, Vitaly M. Alexeenko, Michael G. Mazarakis, Dillon H. Mcdaniel, Craig L. Olson and Ronald M. Gilgenbach	
<b>Dramatic Improvement of X-Ray Power Maximum and Shape on Aluminum Z-Pinches Using Slow Current Prepulse on Sphinx Machine</b> .....	211
Herve Calamy, Francis Lassalle, Franck Hamann, Arnaud Loyer, Frederic Zucchini, Julien Grunenwald, Alain Georges, Patrick Maury, Alain Morell and Jean-Paul Bedoch	
<b>Status on the Sphinx Machine Based on the 1microsecond Ltd Technology</b> .....	212
Francis Lassalle, Bernard Roques, Christophe Mangeant, Arnaud Loyer, Alain Georges, Hervé Calamy, Jean-François Cambonie, Sébastien Laspalles, Didier Cadars, G�erald Rodriguez, Jean-Marc Delchie, Philippe Combes, Thierry Chanconie and Jacques Saves	
<b>2d R-Z Analysis of Hohlräum Experiments on Sphinx Machine Using Axial Radiation From a Wire Array Zpinch</b> .....	213
Franck Hamann, Patrick Maury, Herv�e Calamy, Alain Morell, Frederic Zucchini, Francis Lassalle, Jean-Paul Bedoch, Julien Grunenwald and Alain Georges	

<b>2d R-Z Mhd Simulations for Sphinx Experiments.Numerical Study of Axial Inhomogeneities in the Ablation Process of Wire Arrays .....</b>	<b>214</b>
Julien Grunenwald, Franck Hamann and Herve Calamy	
<b>Effect of Anode Shapes on Neutron Emission From a Repetitive Plasma Focus Device .....</b>	<b>215</b>
Fariha Malik, Hellmut Schmidt, Syed M Hassan, Rajdeep S Rawat, Tao Zhang, Shahid Mahmood, Jia J Lin, Tuck L Tan, Paul Lee and Stuart V Springham	
<b>Diagnostics Package Used on Sphinx Machine for Wire Array Zpinch Characterization .....</b>	<b>216</b>
Frederic Zucchini, Hervé Calamy, Francis Lassalle, Alain Morell, Jean-Paul Bedoch, Sandra Ritter and Patrick Maury	
<b>Development of High Power Gyrotrons for Fusion Applications At Fzk Karlsruhe .....</b>	<b>217</b>
Bernhard Adam Piosczyk, Guenter Dammetz, Andreas Arnold, Gerd Gantenbein, Stefan Illy, Jiambo Jin, Oliver Prinz, Jens Flamm, Tomasz Rzesnicki, Manfred Thumm, Stefano Alberti, Tim Goodman, Jean-Philippe Hogge, Minh Quang Tran, Volker Erckmann, Heinrich La	
<b>Experimental Investigation of Phase Shifting in 1d Bragg Structures for High Power Microwave Switching .....</b>	<b>218</b>
Philip Macinnes, Ivan V Konoplev, Adrian W Cross and Alan D. R. Phelps	
<b>Experimental Studies of Anode and Cathode Materials in a Repetitive-Driven Axial Vircator .....</b>	<b>219</b>
Mattias Elfsberg, Tomas Hurtig, Anders Larsson, Cecilia Möller and Sten E Nyholm	
<b>Small Helical Magnetic Flux Compression Generators: Experiments and Analysis.....</b>	<b>220</b>
Patrik Appelgren, Gert Bjarnholt, Mattias Elfsberg, Tomas Hurtig, Anders Larsson and Sten E Nyholm	
<b>Modelling of a Small Helical Magnetic Flux Compression Generator .....</b>	<b>221</b>
Patrik Appelgren, Sten Andreasson, Tomas Hurtig, Anders Larsson and Sten E Nyholm	
<b>Wall Charge Behaviors in An Ac Microplasma Device with Auxiliary Electrode.....</b>	<b>222</b>
Jeong Hun Mun, Seong Hun Kim and Kyung Cheol Choi	

<b>45 Gw Pulsed-Power Generator .....</b>	<b>223</b>
Adam Lindblom, Anders Larsson, Hans Bernhoff and Mats Leijon	
<b>Experimental Studies of An Axial Vircator with Different Cathode Geometries.....</b>	<b>224</b>
Magnus U Karlsson, Fredrik Olsson, Sven-Erik Wiippa, Jan Axinger and Berndt Olof Bergman	
<b>49-Mj Pulsed Power Facility To Produce High Magnetic-Fields .....</b>	<b>225</b>
Markus Jung, Johannes Jörling, Gerd Wollmann, Juergen Hofmann, Rolf Kerschke and Thomas Weise	
<b>Design and Simulation of W-Band Gyro-Bwo Based on a Helically Corrugated Waveguide .....</b>	<b>226</b>
Craig R Donaldson, Wenlong He, Alan D R Phelps, Adrian W Cross and Kevin Ronald	
<b>All-Solid-State Pulsed Power Supply Based on Marx Generator .....</b>	<b>227</b>
Kefu Liu, Yifan Wu and Jian Qiu	
<b>Spice Simulation for Hard-Tube Modulators Design.....</b>	<b>228</b>
Jose O Rossi, Joaquim J Barroso and Mario Ueda	
<b>Pseudospark Sourced E- Beam Interaction with a Backward Travelling Wave.....</b>	<b>229</b>
Adrian W Cross, Helen Yin, Wenlong He, Kevin Ronald and Alan D.R. Phelps	
<b>Active Reset Circuit with Energy Recovery for Solid State Modulators.....</b>	<b>230</b>
Juergen Biela, Dominik Bortis and Johann W Kolar	
<b>Machining Damaged Surface Hydrodynamic (Dsh) Spall Target Assemblies Used in High Energy Compression Physics Experiments.....</b>	<b>231</b>
Richard V Lucero, Warren P Steckle, Mike A Salazar, Jeffrey R Griego and Blaine Randolph	
<b>Measurement of Plasma Temperature and Density Profiles, Implosion Velocity, and Kinetic Energy in Wire Array Z Pinches .....</b>	<b>232</b>
B. Jones, C. A. Jennings, M. E. Cuneo, D. B. Sinars, G. A. Rochau, J. E. Bailey, K. Peterson, C. A. Coverdale and Y. Maron	
<b>Local Electron Cyclotron Resonance in a Very High Frequency Neutral Loop Discharge .....</b>	<b>233</b>
Aleksy V Arsenin, Vladimir G Leiman and Vladimir P Tarakanov	

<b>A Fitting Model for Thermionic Emission At High Electric Fields .....</b>	<b>234</b>
Chieh-Yu Chang and Ming-Chieh Lin	
<b>The 5 Mj, 25 Kv Capacitor Bank with Semiconductor Closing Switches Based on Reverse Switched Dynistors To Drive the Xenon Flashlamps of Nd- Glass Laser for Luch Facility.....</b>	<b>235</b>
Igor V. Galakhov, Victor G. Bezuglov, Sergei G. Garanin, Sergei V. Grigorovich, Sergei N. Gudov, Maxim I. Kinzibaev, Mikhail Yu. Kirdyashkin, Valeri P. Lazarchuk, Sergei L. Logutenko, Sergei S. Markov, Vasili M. Murugov, Vladimir A. Osin, Ivan N. Pegoev	
<b>Miniature Orotrons Utilizing Carbon Nanotube Cathodes.....</b>	<b>236</b>
Thomas M Antonsen, Jiao Yu, Stergios Papadakis, Robert Oslander, A. Monica, Gregory Nusinovich and David Han	
<b>Processing and Characterization of Nano Aluminium Powder Using Electric Explosion Process (Eep) .....</b>	<b>237</b>
Ramanujam Sarathi, T.K Sindhu, S.R. Chakravarthi and R Jayaganthan	
<b>Finite Element Analysis of Child-Langmuir Law in Quantum Regime .....</b>	<b>238</b>
Chieh-Yu Chang and Ming-Chieh Lin	
<b>High Harmonic Coaxial Gyrotron Based on a Two Dimensional Lattice .....</b>	<b>239</b>
Lorna Fisher, Ivan V Konoplev, Adrian W Cross and Alan D R Phelps	
<b>Calculation of Quasistatic Eigen-Field of a Charge, Which Moves Arbitrarily in a Cylindrical Drift Tube .....</b>	<b>240</b>
Kostyantyn V. Ilyenko and Grigoriy M. Gorbik	
<b>An Experiment To Measure Electron-Ion Temperature Relaxation in a Dense Plasma .....</b>	<b>241</b>
Jose Martin Taccetti, Roger P Shurter, Jeff P Roberts, Peter M Goodwin and John F Benage	
<b>An Experimental Study of Hydrogen Production By Dissociation of Water Vapor in a Helicon Plasma Source.....</b>	<b>242</b>
Sonca Nguyen, Kristina Lemmer, Alec Gallimore and John Foster	
<b>Adiabatic Thermal Equilibrium for Axisymmetric Intense Beam Propagation .....</b>	<b>243</b>
Jing Zhou, Ksenia Samokhvalova and Chiping Chen	
<b>Terahertz Radiation From Glow Discharge in Coaxial Resonator.....</b>	<b>244</b>
Anthony T Lin	
<b>Nonlinear Dynamics of Plasma-Filled Diode in Presence of Magnetic Field .....</b>	<b>245</b>
Daohui Li, Jianxin Zhang and Xiaodong Chen	

<b>Time-Domain Simulation of Inductive Output Tubes.....</b>	<b>246</b>
Henry Freund, William Miner, John Verboncoeur and John Pasour	
<b>The Role of Plasma Evolution in the Operation of a Self Magnetically Pinched Diode.....</b>	<b>247</b>
Dale R Welch, David V Rose, Nicki Bruner and Bryan V Oliver	
<b>Laser-Induced Fluorescence Measurement on Helicon Plasma Sources.....</b>	<b>248</b>
Hyun-Jong Woo, Jang-Won Uhm and Kyu-Sun Chung	
<b>Pcss Triggered Pulsed Power Switches .....</b>	<b>249</b>
Fred J Zutavern, Steve F Glover, Kim W Reed, Michael J Cich, Alan Mar, Michael E Swalby, Therese A Saiz, Michael L Horry, Fred R Gruner and Forest E White	
<b>Power Flow in the Vacuum Section of the Eros Accelerator .....</b>	<b>250</b>
Aled W P Jones, Jim Threadgold, Mark Sinclair and Andrew Stevens	
<b>Initialization and Development of Electric Breakdown in Water .....</b>	<b>251</b>
Yong Yang, Young Cho, Alexander Gutsol and Alexander Fridman	
<b>A Test Facility for Pcss Triggered Pulsed Power Switches.....</b>	<b>252</b>
Michael E Swalby, Steve F Glover, Fred J Zutavern, Kim W Reed, Michael J Cich, Alan Mar, Therese A Saiz, Michael L Horry and Forest E White	
<b>Pcss Lifetime Testing for Pulsed Power Applications .....</b>	<b>253</b>
Therese A Saiz, F J Zutavern, S F Glover, K W Reed, M J Cich, A Mar, M E Swalby and M L Horry	
<b>Current Adder with Programmable Pulse Shaping .....</b>	<b>254</b>
Forest E White, Steven F Glover, Kim W Reed and Mike J Harden	
<b>Te21 Second-Harmonic Gyro-Twt Amplifier Experiment .....</b>	<b>255</b>
Stephen B Harriet, David B Mcdermott and Neville C Luhmann Jr.	
<b>Genetic Optimization for Pulsed Power System Configuration .....</b>	<b>256</b>
Steven F Glover, Kim W Reed, Forest E White and Mike J Harden	
<b>Laser Triggering of Spark Gap Switches with Less Than 100uj's of Energy .....</b>	<b>257</b>
Steven F Glover, Jeff A Alexander, Kim W Reed, Gary E Pena, Michael L Horry, Joshua M Usher and Jane M Lehr	
<b>Interparticle Forces Between the Upper and Lower Particles in a Vertically Aligned Dust Particle Chain .....</b>	<b>258</b>
Jie Kong, Jorge Carmona-Reyes and Truell W. Hyde	



<b>Improved Method for Embedded Object Detection and Reconstruction Through Near-Field Pulse Imaging Techniques .....</b>	<b>259</b>
Naz E Islam, Somsak Tantong, Bruno Camps-Raga and Phumin Kirawanich	
<b>Coupled Electromagnetic/Fluid Dynamic Simulation of Fields Through Plasma and Vacuum .....</b>	<b>260</b>
Ding Li, Charles Merkle, Dennis Keefer, Trevor Moeller, Robert Rhodes and W Michael Scott	
<b>Phase Structural Transitions for Large 2d Dust Clusters in Complex Plasmas.....</b>	<b>261</b>
Ke Qiao and Truell W. Hyde	
<b>Particulate Contamination Within Fusion Devices and Complex (Dusty) Plasmas.....</b>	<b>262</b>
James Creel, Jorge Carmona-Reyes, Jie Kong and Truell W. Hyde	
<b>Vertical Dust Particle Chains - Mass and Charge Measurements.....</b>	<b>263</b>
Jorge Carmona-Reyes, Jie Kong and Truell W. Hyde	
<b>25 ... 100-Kev X-Ray Diagnostics for the 200-Tw Trident Laser .....</b>	<b>264</b>
James A. Cobble and Jonathan B. Workman	
<b>Performance of the Darht Second Axis Induction Cells.....</b>	<b>265</b>
Kurt Nielsen, Juan Baraza, Michael Kang and Benjamin Prichard	
<b>Gaas Photoconductive Semiconductor Switch Fabrication for Improved Reliability.....</b>	<b>266</b>
Michael J Cich, Robert J Kaplar, Jonathan D Weiss, Alan Mar, Therese A Saiz, Michael E Swalby, Fred J Zutavern, Steven F Glover, Michael L Horry and Kim W Reed	
<b>Numerical Study of the Possibility To Stabilize Condensed Liner Implosion .....</b>	<b>267</b>
Sergey F. Garanin, Anatoly M. Buyko, Vassily M. Kalashnikov, Vladislav N. Mokhov, Nadezhda V. Sokolova, Valery B. Yakubov and Vadim V. Zmushko	
<b>Non-Equilibrium Dielectric Barrier Discharge Plasma Promoting Apoptotic Behavior in Melanoma Skin Cancer Cells.....</b>	<b>268</b>
Gregory Fridman, Sameer Kalghatgi, Alexander Fridman, Alexander Gutsol, Victor Vasilets, Gary Friedman, Rachel Sensenig, Alexey Shereshevsky, Manula Balasubramanian, Monica Jost and Ari Brooks	

<b>Comparison of Direct and Indirect Effects of Non-Thermal Atmospheric Pressure Plasma on Bacteria and Mechanisms of Such Interaction</b> .....	269
Gregory Fridman, Alexander Fridman, Alexander Gutsol, Victor Vasilets and Gary Friedman	
<b>Sterilization of Living Human and Animal Tissue By Non-Thermal Atmospheric Pressure Dielectric Barrier Discharge Plasma</b> .....	270
Gregory Fridman, Halim Ayan, Alexander Fridman, Alexander Gutsol, Victor Vasilets, Gary Friedman, Alexey Shereshevsky, Manjula Balasubramanian, Marie L Peddinghaus and Ari Brooks	
<b>Power Conditioning System for High-Power Nd-Glass Laser of Iskra-6 Facility: Description and Status</b> .....	271
Igor V. Galakhov, Victor G. Bezuglov, Sergei G. Garanin, Sergei V. Grigorovich, Maxim I. Kinzibaev, Mikhail Yu. Kirdyashkin, Valeri P. Lazarchuk, Sergei L. Logutenko, Vasili M. Murugov, Vladimir A. Osin, Evgeni A. Kopelovich, Felix A. Flat, Vladimir V. C	
<b>Evaluation of the Ionization and Recombination Processes in Low-Density Plasma Based on the Statistical Model of Atom</b> .....	272
Sergey F. Garanin and Ekaterina M. Palagina	
<b>the Electra Krf Laser System</b> .....	273
Frank Hegeler, Matthew C Myers, Matthew F Wolford, John D Sethian, Reginald Jaynes, Pat Burns, Moshe Friedman, John L Giuliani, Tom Albert and James Parish	
<b>Estimation of Electrode Angle for High Efficient Waste Treatment Using Twin Torch Plasma Arc</b> .....	274
Toru Iwao, Yoshihito Hayashi and Motoshige Yumoto	
<b>Mechanism of Blood Coagulation By Non Thermal Atmospheric Pressure Dielectric Barrier Discharge</b> .....	275
Sameer Kalghatgi, Gregory Fridman, Manjula Balasubramanian, Ari Brooks, Victor Vasilets, Alexander Fridman, Alexander Gutsol and Gary Friedman	
<b>Studies in Plasma Driven Magnetoinertial Fusion Using Smoothed Particle Hydrodynamics</b> .....	276
Jason T Cassibry, Charles Knapp, S. T. Wu and Kirkpatrick Ron	
<b>Shot Noise of High Current Field Emission</b> .....	277
Lay Kee Ang and Lin Wu	

<b>New Generation of High-Power Semiconductor Closing Switches for Pulsed Power Applications .....</b>	<b>278</b>
Igor V. Galakhov, Sergei A. Belyaev, Victor G. Bezuglov, Sergei G. Garanin, Sergei V. Grigorovich, Maxim I. Kinzibaev, Sergei L. Logutenko, Vasili M. Murugov, Vladimir A. Osin, Ivan N. Pegoev, Valeri I. Zolotovski, Evgeni A. Kopelovich, Felix A. Flat VI	
<b>Effect of Pulse Preionization Mode on Characteristics of Uv Radiation From High-Power Xenon Flash Lamps.....</b>	<b>279</b>
Vladimir A. Osin, Victor G. Bezuglov, Igor V. Galakhov, Maxim I. Kinzibaev, Sergei L. Logutenko and Valeri I. Zolotovski	
<b>Characterization of the Dose Effect in Secondary Electron Emission.....</b>	<b>280</b>
Prashanth Kumar, Christopher Watts, Tengiz Svimonishvili, Mark Gilmore and Edl Schamiloglu	
<b>Present Status of the New Multi-Frequency Ecrh System for Asdex Upgrade.....</b>	<b>281</b>
Dietmar Wagner, Fritz Leuterer, Jörg Stober, Adriano Manini, Francesco Monaco, Max München, Harald Schütz, Hartmut Zohm, Thomas Franke, Manfred Thumm, Roland Heidinger, Igor Danilov, Gerd Gantenbein, Jens Flamm, Walter Kasperek, Alexander G Litvak	
<b>Impact of Non-Uniform Magnetic Field on the Operation of Magnetrons .....</b>	<b>282</b>
Jianxin Zhang, Xiaodong Chen, Maurice Esterson, Paul Burleigh and David Wilson	
<b>Precision Electron Flow Measurements in a Disk Transmission Line.....</b>	<b>283</b>
Jeremy P Martin and Mark E Savage	
<b>Stacked, Parallel-Plate Solid-Dielectric Blumlein Lines for Compact Pulsed Power .....</b>	<b>284</b>
Matthew T Domonkos, James O'loughlin, Darwin Brown, Carl W Gregg, Thomas Montoya, Jerald Parker, Kirk Slenes, Tyrone Tran and Peter Turchi	
<b>A Fitting Model for High Current Density Field Emission Arrays.....</b>	<b>285</b>
Ming-Chieh Lin	
<b>Laboratory Experimental Investigations of Auroral Cyclotron Emissions .....</b>	<b>286</b>
Sandra L Mcconville, Adrian W Cross, Kevin Ronald, David C Speirs, Karen M Gillespie, Alan Dr Phelps, Craig W Robertson, Colin G Whyte, Robert Bingham, Barry J Kellett, Irena Vorgul and Robert A Cairns	

<b>Pulse Shaping of Interaction and Stagnation Pulses Using Nested Conical Wire Array Z-Pinches .....</b>	<b>287</b>
D J Ampleford, M E Cuneo, S V Lebedev, S N Bland, S C Bott, G N Hall, F Suzuki-Vidal and J P Chittenden	
<b>Initial Results for a 20 Cm Diameter, Structured Argon Z-Pinch on the Sphinx Machine.....</b>	<b>288</b>
Philip L. Coleman, Mahadevan Krishnan, Alex Bixler, Kristi Wilson, John Thompson, F. Lassalle, A. Morell and H. Calamy	
<b>Pure Electron Plasmas Confined on Magnetic Surfaces .....</b>	<b>289</b>
John W Berkery, Thomas S Pedersen, Quinn R Marksteiner, Michael S Hahn, Jason P Kremer and Remi G Lefrancois	
<b>Measurements of the Hall Dynamo in the Reversed Field Pinch Edge During Reconnection Events.....</b>	<b>290</b>
Alexey V Kuritsyn, Gennady Fiksel, Abdulgader F Almagri, Stewart C Prager, John S Sarff and Tim D Tharp	
<b>Zr Laser Triggered Gas Switch Requirements and Performance .....</b>	<b>291</b>
Keith R Lechien, David E Bliss, Jane M Lehr, John E Maenchen, Dillon H Mcdaniel, Mark E Savage, Kenneth W Struve, Joseph R Woodworth, John P Corley, Keith C Hodge, Peter E Wakeland and Kenneth R Prestwich	
<b>Reconnection Effects in Z-Pinch Wire Arrays From 2-D Hall-Mhd Simulations .....</b>	<b>292</b>
Charles E Seyler	
<b>Electron-Beam Generated Air Plasma: Sensors To Quantify Beam Current and Electron Density.....</b>	<b>293</b>
Robert J Vidmar, Anna Yu Serdyuchenko, Megan V Seeley, Quinn J Sinnott and Kenneth R Stalder	
<b>Electron-Beam Generated Air Plasma: Beam Current and Electron Density Distributions .....</b>	<b>294</b>
Robert J Vidmar, Anna Yu Serdyuchenko, Mega V Seeley, Quinn J Sinnott and Kenneth R Stalder	
<b>Two Dimensional Collisional Child Langmuir Law .....</b>	<b>295</b>
W. Chandra and L. K. Ang	
<b>High Energy Density Dielectrics for Transmission Line.....</b>	<b>296</b>
Wang Jue, Yan Ping and Liu Bin	

<b>Solid-State Igbt/Sos-Based Generator with 100-Khz Pulse Repetition Frequency.....</b>	<b>297</b>
Sergei N Rukin, Sergei K Lyubutin, Andrey V Ponomarev, Boris G Slovikovsky, Sergei N Tsyranov and Pavel V Vasiliev	
<b>Influence of the Microstructure on the Mechanical Properties in Pulsed Plasma Nitriding Aisi P20 Steel.....</b>	<b>298</b>
Carlos Alejandro Figueroa	
<b>Characterization of a Ferroelectric Plasma Source Operated At Atmospheric Pressure.....</b>	<b>299</b>
Dustin L Sullivan, Mark A Kemp and Scott D Kovaleski	
<b>Spatial Dynamics of Oscillations in a Thermal Plasma Jet.....</b>	<b>300</b>
Jan Hlína, Jan Gruber and Jirí Onský	
<b>Characterization of Runtime and Jitter on a Laser Triggered Spark Gap Switch.....</b>	<b>301</b>
Brian Hutsel, Dustin Sullivan, Andrew Benwell, James Vangordon, Scott Kovaleski and John Gahl	
<b>Effects of Cold Air Plasma on Eukaryotic Microalgae .....</b>	<b>302</b>
Yingzhong Z Tang, Xinpei Lu, Fred C Dobbs and Mounir Laroussi	
<b>Solid State Pulse Adding System for Transient Plasma Ignition .....</b>	<b>303</b>
Tao Tang, Daniel R. Singleton, Hao Chen, Charles D. Cathey, Andras Kuthi and Martin A. Gundersen	
<b>Toward the Design of High Power and High Efficiency Relativistic Magnetrons Using Novel Cathode Geometries .....</b>	<b>304</b>
Timothy P Fleming, Peter J Mardahl, Les Bowers, Keith L Cartwright, Matthew Bettencourt, Herman Bosman and Sarita Prasad	
<b>Spatial and Temporal Behavior of a Plasma Bullet Launched By a Pulsed Cold Plasma Device.....</b>	<b>305</b>
Mounir Laroussi and Xinpei Lu	
<b>Optical Diagnostics of the Zr Gas Switch.....</b>	<b>306</b>
Joseph R Woodworth, David E Bliss, Mark E Savage, Keith R Lechien, John E Maenchen, Jane M Lehr, John P Corley, Keith C Hodge, Douglas Guthrie, Zachary Wallace, Victor Anaya, Gregory Feltz, Peter Wakeland, Timothy Thompson, James R Blickem and Michael J	
<b>Flashover of a Coaxial Insulator with Anode and Cathode Triple Point Electric Field Reduction.....</b>	<b>307</b>
Andrew Benwell, Scott Kovaleski and John Gahl	