

Mark Prelas

List of Publications by Year in descending order

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139
papers

1,419
citations

361045

20
h-index

395343

33
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148
all docs

148
docs citations

148
times ranked

948
citing authors

#	ARTICLE	IF	CITATIONS
1	A review of nuclear batteries. <i>Progress in Nuclear Energy</i> , 2014, 75, 117-148.	1.3	182
2	Diamond Nanoparticles as a Support for Pt and PtRu Catalysts for Direct Methanol Fuel Cells. <i>ACS Applied Materials & Interfaces</i> , 2012, 4, 1134-1147.	4.0	67
3	Diffusion of boron, lithium, oxygen, hydrogen, and nitrogen in type IIa natural diamond. <i>Journal of Applied Physics</i> , 1995, 77, 5103-5106.	1.1	59
4	<i>Energy Resources and Systems.</i> , 2011, , .		46
5	Nucleation and Selective Deposition of Diamond Thin Films. <i>Physica Status Solidi A</i> , 1992, 132, 233-252.	1.7	45
6	Nuclear Batteries and Radioisotopes. <i>Lecture Notes in Energy</i> , 2016, , .	0.2	44
7	Prospective n-type impurities and methods of diamond doping. <i>Diamond and Related Materials</i> , 1995, 4, 1305-1310.	1.8	41
8	Forced diffusion of impurities in natural diamond and polycrystalline diamond films. <i>Journal of Applied Physics</i> , 1995, 77, 5625-5629.	1.1	36
9	A review of the utilization of energetic ions for the production of excited atomic and molecular states and chemical synthesis. <i>Progress in Nuclear Energy</i> , 1981, 8, 35-52.	1.3	33
10	Screening in cold fusion derived from D-D reactions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 175, 138-143.	0.9	32
11	Properties of diffused diamond films with n-type conductivity. <i>Diamond and Related Materials</i> , 1995, 4, 877-881.	1.8	32
12	Design and optimization of radioisotope sources for betavoltaic batteries. <i>International Journal of Energy Research</i> , 2018, 42, 2564-2573.	2.2	31
13	Beta particle transport and its impact on betavoltaic battery modeling. <i>Applied Radiation and Isotopes</i> , 2017, 130, 80-89.	0.7	29
14	Smooth diamond films grown by hot filament chemical vapor deposition on positively biased silicon substrates. <i>Journal of Materials Research</i> , 1995, 10, 2011-2016.	1.2	27
15	Properties of Li doped diamond films, obtained by transmutation of ^{10}B into ^7Li . <i>Diamond and Related Materials</i> , 1996, 5, 761-765.	1.8	27
16	Synthesis of platinum and platinum-ruthenium-modified diamond nanoparticles. <i>Journal of Nanoparticle Research</i> , 2011, 13, 2997-3009.	0.8	27
17	Theoretical Maximum Efficiencies of Optimized Slab and Spherical Betavoltaic Systems Utilizing Sulfur-35, Strontium-90, and Yttrium-90. <i>Nuclear Technology</i> , 2012, 179, 234-242.	0.7	26
18	Molybdenum-99 production pathways and the sorbents for $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generator systems using $(n, \hat{p}^3)^{99}\text{Mo}$: a review. <i>SN Applied Sciences</i> , 2020, 2, 1.	1.5	26

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19	A methodology for efficiency optimization of betavoltaic cell design using an isotropic planar source having an energy dependent beta particle distribution. Applied Radiation and Isotopes, 2017, 127, 41-46.	0.7	25
20	Silver on diamond Schottky diodes formed on boron doped hot-filament chemical vapor deposited polycrystalline diamond films. Applied Physics Letters, 1992, 61, 1119-1121.	1.5	23
21	Diamond ultraviolet photovoltaic cell obtained by lithium and boron doping. Journal of Applied Physics, 1997, 81, 2429-2431.	1.1	22
22	Effect of mechanical stress on current-voltage characteristics of thin film polycrystalline diamond Schottky diodes. Journal of Applied Physics, 1993, 73, 1832-1837.	1.1	20
23	A two-step photon-intermediate technique for the production of electricity, chemicals or lasers in nuclear energy conversion. Progress in Nuclear Energy, 1990, 23, 223-240.	1.3	19
24	Smooth diamond films grown by hot filament chemical vapor deposition on positively biased silicon substrates. Journal of Crystal Growth, 1994, 140, 454-458.	0.7	19
25	Neutron irradiation and annealing of ^{10}B doped chemical vapor deposited diamond films. Journal of Materials Research, 1995, 10, 2523-2530.	1.2	19
26	A Critical Review of Fusion Systems for Radiolytic Conversion of Inorganics to Gaseous Fuels. Nuclear Technology/Fusion, 1982, 2, 143-164.	0.5	18
27	Growth of oriented aluminium nitride films on silicon by chemical vapour deposition. Journal of Materials Science, 1994, 29, 4314-4318.	1.7	18
28	Study of color centers in hot-filament CVD diamond films by cathodoluminescence and photoluminescence and their correlations with film quality. Diamond and Related Materials, 1996, 5, 1236-1245.	1.8	18
29	Boron diffusion into diamond under electric bias. Journal of Materials Research, 1997, 12, 1169-1171.	1.2	18
30	Dispersion of FeOOH on Chitosan Matrix for Simultaneous Removal of As(III) and As(V) from Drinking Water. Separation Science and Technology, 2014, 49, 2863-2877.	1.3	17
31	Nuclear-Pumped Lasers. , 2016, , .		16
32	Characterization and Adsorption Behavior of Strontium from Aqueous Solutions onto Chitosan-Fullerene Earth Beads. Healthcare (Switzerland), 2019, 7, 52.	1.0	16
33	Adsorption of Uranium on a Novel Bioadsorbent-Chitosan-Coated Perlite. Nuclear Technology, 2007, 159, 59-71.	0.7	15
34	Diffusion of Boron into Polycrystalline Diamond Films Using the Electric Field Enhanced Diffusion (EFED) Technique. Journal of Wide Bandgap Materials, 2002, 10, 15-27.	0.1	15
35	Thermal and X-ray diffraction analysis studies during the decomposition of ammonium uranyl nitrate. Journal of Radioanalytical and Nuclear Chemistry, 2012, 292, 1075-1083.	0.7	14
36	Photon Intermediate Direct Energy Conversion Using a ^{90}Sr Beta Source. Nuclear Technology, 2013, 181, 349-353.	0.7	12

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37	Design Principles of Narrow and Wide Bandgap-Based Betavoltaic Batteries. IEEE Transactions on Electron Devices, 2018, 65, 5518-5524.	1.6	12
38	Theoretical Maximum Efficiency for a Linearly Graded Alphavoltaic Nuclear Battery. Nuclear Technology, 2012, 179, 243-249.	0.7	11
39	A Q-DLTS investigation of aluminum nitride surface termination. Journal of Materials Research, 2012, 27, 1198-1204.	1.2	11
40	High efficiency Dual-Cycle Conversion System using Kr-85. Applied Radiation and Isotopes, 2018, 139, 70-80.	0.7	11
41	Potential well structures in spherical inertial electrostatic confinement devices. IEEE Transactions on Plasma Science, 2005, 33, 1377-1394.	0.6	9
42	Diamond photovoltaic cells as a first-wall material and energy conversion system for inertial confinement fusion. Laser and Particle Beams, 1993, 11, 65-79.	0.4	8
43	Photovoltaic effects in metal/semiconductor barrier structures with boron-doped polycrystalline diamond films. Thin Solid Films, 1995, 266, 278-281.	0.8	8
44	Monte Carlo simulations of multiplexed electronic grade CVD diamond for neutron detection. Radiation Measurements, 2012, 47, 417-425.	0.7	8
45	Energy response of diamond sensor to beta radiation. Applied Radiation and Isotopes, 2018, 139, 66-69.	0.7	8
46	Thermal desorption study of bonded hydrogen in diamond films. Diamond and Related Materials, 1996, 5, 121-123.	1.8	7
47	Microwave excitation and applications of an elliptical excimer lamp. Laser and Particle Beams, 1998, 16, 509-524.	0.4	7
48	Experimental Observations of a Spherical Transparent Cathode Glow Discharge. IEEE Transactions on Plasma Science, 2008, 36, 1881-1889.	0.6	7
49	Nucleus $Z=126$ with magic neutron number $N=184$ may be related to the measured Maruhnâ€™s Greiner maximum at $A/2=155$ from compound nuclei at low energy nuclear reactions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 2467-2470.	0.9	7
50	Asteroid Mining and Deflection Using Electromagnetic Launchers. IEEE Transactions on Plasma Science, 2017, 45, 1327-1332.	0.6	7
51	Radiation resistant PIDECE cell using photon intermediate direct energy conversion and a ^{210}Po source. Applied Radiation and Isotopes, 2018, 132, 110-115.	0.7	7
52	An enhancement of ion energy spectra resolution and sensitivity in a multigridded energy analyzer with a retarding grid potential: the variable energy analyzer (VEA). IEEE Transactions on Plasma Science, 1988, 16, 661-666.	0.6	6
53	Plasma etched polycrystalline hotâ€™filament chemical vapor deposited diamond thin films and their electrical characteristics. Applied Physics Letters, 1994, 65, 2827-2829.	1.5	6
54	Electrical Characterization of Aluminum Nitride Films on Silicon Grown by Chemical Vapor Deposition. Materials Research Society Symposia Proceedings, 1994, 339, 637.	0.1	6

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55	Boron Diffusion Coefficient in Diamond. Materials Research Society Symposia Proceedings, 1995, 416, 467.	0.1	6
56	Ion flow convergence in spherical inertial electrostatic confinement devices. Physics of Plasmas, 2008, 15, 022105.	0.7	6
57	Studies of an Aerosol Core Reactor/Laser's Critical Properties. , 1986, , 603-611.		6
58	Cold fusion experiments using Maxwellian plasmas and sub-atmospheric deuterium gas. Journal of Fusion Energy, 1990, 9, 309-313.	0.5	5
59	A hyperbolic energy analyzer. Review of Scientific Instruments, 1990, 61, 1708-1712.	0.6	5
60	Design of an ICF plant using a nuclear-driven solid-state laser. Laser and Particle Beams, 1995, 13, 95-109.	0.4	5
61	Surface Phenomena of the Thin Diamond-Like Carbon Films. Materials Research Society Symposia Proceedings, 1998, 555, 345.	0.1	5
62	Space nuclear power system accidents: Doses from Pu-238 and Am-241 inhalation. Progress in Nuclear Energy, 2017, 100, 171-182.	1.3	5
63	Concentrating Properties of Simple Two-Dimensional Geometries for Isotropic Light. , 1986, , 155-165.		5
64	Design, construction, and testing of a nuclear pumping facility at the University of Missouri Research Reactor. Review of Scientific Instruments, 1982, 53, 952-959.	0.6	4
65	Raman scattering characterization of (100) and (111) oriented diamond films grown in the same run by hot filament chemical vapor deposition. Journal of Materials Research, 1994, 9, 2839-2844.	1.2	4
66	Theoretical aspects of diamond films and laser action. Diamond and Related Materials, 1995, 4, 1376-1382.	1.8	4
67	Electrical characteristics of diamond films diffused using Li salts. Thin Solid Films, 1996, 279, 93-97.	0.8	4
68	A Novel Method For The Diffusion Of Boron In 60-80 Micron Size Natural Diamond Type II/A Powder. Materials Research Society Symposia Proceedings, 2006, 929, 1.	0.1	4
69	Introduction to Nuclear Batteries and Radioisotopes. Lecture Notes in Energy, 2016, , 1-37.	0.2	4
70	A Compact Aerosol Core Reactor/Laser Fueled with Reflective Micropellets. , 1986, , 143-154.		4
71	Design Study and Supporting Experiments for an Axially Symmetric Anchor for a Tandem Mirror. Fusion Science and Technology, 1986, 10, 1034-1040.	0.6	3
72	Photoresponse Study of Polycrystalline Diamond thin Film Schottky Diodes. Materials Research Society Symposia Proceedings, 1994, 339, 191.	0.1	3

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73	Spatial distributions of electron density and temperature in audio frequency and radio frequency magnetron glow discharges. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1994, 12, 3115-3119.	0.9	3
74	High quantum efficiency for Pt ₂ Si Schottky-barrier diodes in the vacuum ultraviolet. <i>Journal of Applied Physics</i> , 1994, 75, 7588-7590.	1.1	3
75	Conductivity and Ftir Measurements of the Hydrogen Content of Heat Treated Diamond Films. <i>Materials Research Society Symposia Proceedings</i> , 1994, 339, 643.	0.1	3
76	A Comparison of Electrical, Fusion-Generated-Ion, and Fission-Generated-Ion ICF Drivers. , 1992, , 67-78.		3
77	Electron populations in the hot-electron ring region of mirrors and cusps, measured by a hyperbolic energy analyzer. <i>Review of Scientific Instruments</i> , 1990, 61, 3304-3305.	0.6	2
78	Focused high-intensity proton beam from a lithium source by using an E-B stigmatic selector. <i>Review of Scientific Instruments</i> , 1990, 61, 636-638.	0.6	2
79	Diffusion of Impurities Under Bias in CVD Diamond Films. <i>Materials Research Society Symposia Proceedings</i> , 1994, 339, 601.	0.1	2
80	Lasers with combined nuclear pumping. <i>Laser and Particle Beams</i> , 1995, 13, 351-364.	0.4	2
81	Raman and FTIR Study of Neutron Irradiated CVD Diamond. <i>Materials Research Society Symposia Proceedings</i> , 1995, 416, 223.	0.1	2
82	Hydropower. , 2011, , 157-215.		2
83	Bioenergy. , 2011, , 327-418.		2
84	Diamond sensor arrays for neutron detection: Preamplifier signal dependence on sensor array configuration. <i>Radiation Measurements</i> , 2015, 73, 18-25.	0.7	2
85	Transport model for a transverse electron beam-pumped semiconductor laser. <i>Laser and Particle Beams</i> , 2019, 37, 392-399.	0.4	2
86	Nuclear-Driven Solid-State Lasers for Inertial Confinement Fusion. , 1991, , 197-210.		2
87	Numerical Study of Gyrophase and Time-Dependent Nonadiabatic Electron Losses in Axially Symmetric Magnetic Mirror Fields. <i>Fusion Science and Technology</i> , 1988, 14, 284-287.	0.6	1
88	Fast multiline low-impurity imaging diagnostic for fluctuation and particle confinement studies. <i>Review of Scientific Instruments</i> , 1990, 61, 3064-3066.	0.6	1
89	Effects of helium buffer gas on the atomic carbon nuclear-pumped laser at low power densities. <i>Laser and Particle Beams</i> , 1991, 9, 829-839.	0.4	1
90	Plasma diagnostic x-ray tomography system. <i>Review of Scientific Instruments</i> , 1991, 62, 751-754.	0.6	1

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91	<title>Problems of the n-type diamond doping</title>. , 1994, 2151, 99.		1
92	<title>AIN on diamond thin films grown by chemical vapor deposition methods</title>. , 1994, 2151, 44.		1
93	Influence of Forced Diffusion of Boron on Electrical Conductivity of Diamond Films. Materials Research Society Symposia Proceedings, 1996, 423, 649.	0.1	1
94	Neutron-pumped excimer flashlamp sources. , 2004, , .		1
95	Transmission and secondary electron emission of 20â€“50â€“keV electrons through aluminium foils. Journal Physics D: Applied Physics, 2007, 40, 284-287.	1.3	1
96	Double Potential Well Regimes in Collisionless Spherical Discharges. IEEE Transactions on Plasma Science, 2007, 35, 354-360.	0.6	1
97	Nuclear Terrorism. Public Administration and Public Policy, 2009, , 277-306.	0.0	1
98	Ethanol. , 2011, , 419-493.		1
99	Hydrogen Energy. , 2011, , 495-629.		1
100	An Aluminum Nitride-based chemical sensor using Q-DLTS. Diamond and Related Materials, 2012, 23, 72-75.	1.8	1
101	Quest for a Material for Sulfuric Acid Superheater/Decomposer for Sulfur-Iodine Thermochemical Cycle for Hydrogen Production. Nuclear Technology, 2013, 184, 351-363.	0.7	1
102	Potential Applications for Nuclear Batteries. Lecture Notes in Energy, 2016, , 285-305.	0.2	1
103	Reactor and Laser Coupling. , 2016, , 229-320.		1
104	Thermal to optical energy conversion: A multi megawatt carbon dioxide laser driven by an extremely high temperature gas cooled reactor. Progress in Nuclear Energy, 2018, 107, 155-171.	1.3	1
105	Ti:Pt:Au:Ni thin-film CVD diamond sensor ability for charged particle detection. Applied Radiation and Isotopes, 2018, 139, 181-186.	0.7	1
106	Advanced Energy Conversion Methods for Cold Fusion. Fusion Science and Technology, 1989, 16, 240-242.	0.6	0
107	The Identification of Hot Electron Rings in Spindle Cusp Using a Magnetic Dipole Analyzer. Fusion Science and Technology, 1991, 20, 411-418.	0.6	0
108	Effect of Mechanical Stress on Polycrystalline Diamond Schottky Diode I-V Characteristics. Materials Research Society Symposia Proceedings, 1992, 270, 431.	0.1	0

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109	Diamond Photovoltaic Cells as a First Wall Material and Energy Conversion System for Inertial Confinement Fusion. , 1992, , 403-419.		0
110	Rectifying contact formation with indium on polycrystalline p-type hot-filament chemical vapor deposited diamond utilizing molecular ion implantation. Journal of Applied Physics, 1993, 74, 763-765.	1.1	0
111	Phase Transformation of Smooth Diamond Films Grown by hot Filament Chemical Vapor Deposition on Positively Biased Silicon Substrates.. Materials Research Society Symposia Proceedings, 1994, 339, 325.	0.1	0
112	Determination of Hydrogen in CVD Diamond by Notched Neutron Spectrum Technique and Ftir. Materials Research Society Symposia Proceedings, 1995, 416, 361.	0.1	0
113	Hydrogen Storage in Diamond Powder Utilizing Plasma NaF Surface Treatment for Fuel Cell Applications. AIP Conference Proceedings, 2006, , .	0.3	0
114	Determination of Local Magnetic Dipole Moment of the Plasma at the PUPR Cusp-Mirror Machine. AIP Conference Proceedings, 2006, , .	0.3	0
115	Experimental Measurements of Radial Potential Profiles in the Missouri University Spherical Ion Confinement Chamber (MUSICC) via an Emissive Probe. , 2007, , .		0
116	Automated Langmuir Probe Diagnostics in an Inertial Electrostatic Confinement Device. , 2007, , .		0
117	Plasma gas identification using the single Langmuir probe at the PUPR mirror-cusp. Physica Scripta, 2008, T131, 014022.	1.2	0
118	Chemical Terrorism. Public Administration and Public Policy, 2009, , 447-456.	0.0	0
119	Biological Terrorism. Public Administration and Public Policy, 2009, , 89-98.	0.0	0
120	Biological Terrorism. Public Administration and Public Policy, 2009, , 99-152.	0.0	0
121	Raman and SEM/EDS Characterization of Cr-Doped Natural Diamond Particles. Nuclear Technology, 2010, 169, 271-278.	0.7	0
122	Ocean Energy. , 2011, , 267-326.		0
123	Computer-Based Investigative Techniques: A Comparison of Dose Using the MCNP Code for Optically Stimulated Light Dosimeters. Nuclear Technology, 2014, 187, 96-102.	0.7	0
124	Radioisotopes. Lecture Notes in Energy, 2016, , 39-79.	0.2	0
125	Interactions of Ionizing Radiation with Matter and Direct Energy Conversion. Lecture Notes in Energy, 2016, , 81-175.	0.2	0
126	Power Density Dilution Due to the Interface of the Isotope with the Transducer. Lecture Notes in Energy, 2016, , 177-220.	0.2	0

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127	Efficiency Limitations for Various Nuclear Battery Configurations. Lecture Notes in Energy, 2016, , 221-284.	0.2	0
128	Direct Energy Conversion Principles as Applied to Lasers. , 2016, , 101-130.		0
129	Radiation Interaction with Matter. , 2016, , 63-100.		0
130	Introduction to Nuclear-Pumped Lasers. , 2016, , 1-61.		0
131	Compact nuclear-driven semiconductor reactor/laser system. Progress in Nuclear Energy, 2021, 141, 103939.	1.3	0
132	Weaponization and Delivery Systems. Public Administration and Public Policy, 2002, , .	0.0	0
133	The Classification and Manufacture of Biological Agents. Public Administration and Public Policy, 2002, , .	0.0	0
134	Chemical Weapon Delivery, Sensors and Detection Systems. Public Administration and Public Policy, 2002, , .	0.0	0
135	Nuclear Terrorism. Public Administration and Public Policy, 2002, , .	0.0	0
136	Sensors and Detection Systems for Biological Agents. Public Administration and Public Policy, 2002, , .	0.0	0
137	Theoretical Aspects of Aluminium Nitride and Diamond in View of Laser and Photovoltaic Action. , 1995, , 487-509.		0
138	ESR Study of Neutron Irradiated Doped Diamond Films. , 1997, , 323-328.		0
139	Radiation Induced Modifications of Diamond. , 1997, , 341-347.		0