Paul May

List of Publications by Year
in descending order

110	4,458	71061 41	110317 64
papers	citations	h-index	g-index

112	112	112	4502
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Diamond thin films: a 21st-century material. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 473-495.	1.6	573
2	Thin film diamond by chemical vapour deposition methods. Chemical Society Reviews, 1994, 23, 21.	18.7	192
3	Porous Boron-Doped Diamond/Carbon Nanotube Electrodes. ACS Applied Materials & Interfaces, 2014, 6, 990-995.	4.0	134
4	Nitrogen in Diamond. Chemical Reviews, 2020, 120, 5745-5794.	23.0	133
5	Microcrystalline, nanocrystalline, and ultrananocrystalline diamond chemical vapor deposition: Experiment and modeling of the factors controlling growth rate, nucleation, and crystal size. Journal of Applied Physics, 2007, 101, 053115.	1.1	117
6	Isolation and Structural Proof of the Large Diamond Molecule, Cyclohexamantane (C26H30). Angewandte Chemie - International Edition, 2003, 42, 2040-2044.	7.2	116
7	The New Diamond Age?. Science, 2008, 319, 1490-1491.	6.0	102
8	From Ultrananocrystalline Diamond to Single Crystal Diamond Growth in Hot Filament and Microwave Plasma-Enhanced CVD Reactors: a Unified Model for Growth Rates and Grain Sizes. Journal of Physical Chemistry C, 2008, 112, 12432-12441.	1.5	102
9	Reevaluation of the mechanism for ultrananocrystalline diamond deposition from Arâˆ•CH4âˆ•H2 gas mixtures. Journal of Applied Physics, 2006, 99, 104907.	1.1	100
10	Raman spectroscopy of nanocrystalline diamond: Anab initioapproach. Physical Review B, 2006, 74, .	1.1	93
11	Unravelling aspects of the gas phase chemistry involved in diamond chemical vapour deposition. Physical Chemistry Chemical Physics, 2001, 3, 3471-3485.	1.3	89
12	CVD diamond: a new technology for the future?. Endeavour, 1995, 19, 101-106.	0.1	87
13	Diamond-coated â€˜black siliconâ€™ as a promising material for high-surface-area electrochemical electrodes and antibacterial surfaces. Journal of Materials Chemistry B, 2016, 4, 5737-5746.	2.9	86
14	Phosphorus carbides: theory and experiment. Dalton Transactions, 2004, , 3085.	1.6	75
15	Field Emission from Hybrid Diamond-like Carbon and Carbon Nanotube Composite Structures. ACS Applied Materials & Interfaces, 2013, 5, 12238-12243.	4.0	69
16	Diamond thin films: giving biomedical applications a new shine. Journal of the Royal Society Interface, 2017, 14, 20170382.	1.5	69
17	Sputtering of grains in C-type shocks. Monthly Notices of the Royal Astronomical Society, 2000, 318, 809-816.	1.6	66
18	Raman spectroscopy of diamondoids. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2006, 64, 681-692.	2.0	64

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19	Studies of black silicon and black diamond as materials for antibacterial surfaces. Biomaterials Science, 2018, 6, 1424-1432.	2.6	64
20	Field emission conduction mechanisms in chemical vapor deposited diamond and diamondlike carbon films. Applied Physics Letters, 1998, 72, 2182-2184.	1.5	63
21	Low temperature diamond growth using CO2/CH4 plasmas: Molecular beam mass spectrometry and computer simulation investigations. Journal of Applied Physics, 2001, 89, 1484-1492.	1.1	59
22	Direct Growth of Highly Organized Crystalline Carbon Nitride from Liquid-Phase Pulsed Laser Ablation. Chemistry of Materials, 2006, 18, 5058-5064.	3.2	58
23	Ion energy distributions in radioâ€frequency discharges. Journal of Applied Physics, 1991, 70, 82-92.	1.1	56
24	Amine functionalized nanodiamond promotes cellular adhesion, proliferation and neurite outgrowth. Biomedical Materials (Bristol), 2014, 9, 045009.	1.7	56
25	Direct observation of electron emission from grain boundaries in CVD diamond by PeakForce-controlled tunnelling atomic force microscopy. Carbon, 2015, 94, 386-395.	5.4	56
26	Field emission from chemical vapor deposited diamond and diamond-like carbon films: Investigations of surface damage and conduction mechanisms. Journal of Applied Physics, 1998, 84, 1618-1625.	1.1	54
27	Assisted deposition of nano-hydroxyapatite onto exfoliated carbon nanotube oxide scaffolds. Nanoscale, 2015, 7, 10218-10232.	2.8	54
28	Experiment and modeling of the deposition of ultrananocrystalline diamond films using hot filament chemical vapor deposition and Arâˆ•CH4âˆ•H2 gas mixtures: A generalized mechanism for ultrananocrystalline diamond growth. Journal of Applied Physics, 2006, 100, 024301.	1.1	53
29	Towards new binary compounds: Synthesis of amorphous phosphorus carbide by pulsed laser deposition. Journal of Solid State Chemistry, 2013, 198, 466-474.	1.4	53
30	Modeling radioâ€frequency discharges: Effects of collisions upon ion and neutral particle energy distributions. Journal of Applied Physics, 1992, 71, 3721-3730.	1.1	51
31	Gasâ€phase composition measurements during chlorine assisted chemical vapor deposition of diamond: A molecular beam mass spectrometric study. Journal of Applied Physics, 1996, 79, 7264-7273.	1.1	51
32	Ultra fine carbon nitride nanocrystals synthesized by laser ablation in liquid solution. Journal of Nanoparticle Research, 2007, 9, 1181-1185.	0.8	51
33	Field emission properties of diamond films of different qualities. Applied Physics Letters, 1997, 71, 2337-2339.	1.5	48
34	Carbon nitride:<i>Ab initio</i>investigation of carbon-rich phases. Physical Review B, 2009, 80, .	1.1	48
35	High temperature properties of SiC and diamond CVD-monofilaments. Journal of the European Ceramic Society, 2005, 25, 1929-1942.	2.8	47
36	Long-term culture of pluripotent stem-cell-derived human neurons on diamond â€“ A substrate for neurodegeneration research and therapy. Biomaterials, 2015, 61, 139-149.	5.7	47

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37	Impedance studies of boron-doped CVD diamond electrodes. Diamond and Related Materials, 2000, 9, 1181-1183.	1.8	46
38	The structure of MHD shocks in molecular outflows: grain sputtering and SiO formation. Monthly Notices of the Royal Astronomical Society, 1996, 280, 447-457.	1.6	45
39	Infrared spectroscopic investigation of higher diamondoids. Journal of Molecular Spectroscopy, 2006, 238, 158-167.	0.4	45
40	Metalâ€"Bosonic Insulatorâ€"Superconductor Transition in Boron-Doped Granular Diamond. Physical Review Letters, 2013, 110, 077001.	2.9	44
41	Optimizing Biosensing Properties on Undecylenic Acid-Functionalized Diamond. Langmuir, 2007, 23, 5824-5830.	1.6	43
42	Electrochemical Performance of Porous Diamond-like Carbon Electrodes for Sensing Hormones, Neurotransmitters, and Endocrine Disruptors. ACS Applied Materials & Interfaces, 2014, 6, 21086-21092.	4.0	42
43	Structural characterisation of CNx thin films deposited by pulsed laser ablation. Diamond and Related Materials, 2003, 12, 1049-1054.	1.8	40
44	Scaling of Hydrogen-Terminated Diamond FETs to Sub-100-nm Gate Dimensions. IEEE Electron Device Letters, 2011, 32, 599-601.	2.2	40
45	A planar refractive x-ray lens made of nanocrystalline diamond. Journal of Applied Physics, 2010, 108, 123107.	1.1	39
46	Growth of self-assembled ZnO nanoleaf from aqueous solution by pulsed laser ablation. Nanotechnology, 2007, 18, 215602.	1.3	38
47	Sulfur doping of diamond films: Spectroscopic, electronic, and gas-phase studies. Journal of Applied Physics, 2002, 91, 3605-3613.	1.1	35
48	Simulations of chemical vapor deposition diamond film growth using a kinetic Monte Carlo model. Journal of Applied Physics, 2010, 108, .	1.1	33
49	Field emission from diamond-coated multiwalled carbon nanotube â€œteepeeâ€• structures. Journal of Applied Physics, 2012, 112, .	1.1	33
50	Studies of Black Diamond as an antibacterial surface for Gram Negative bacteria: the interplay between chemical and mechanical bactericidal activity. Scientific Reports, 2019, 9, 8815.	1.6	29
51	Sputtering of the refractory cores of interstellar grains. Monthly Notices of the Royal Astronomical Society, 1997, 285, 839-846.	1.6	27
52	Direct observation of electron emission from the grain boundaries of chemical vapour deposition diamond films by tunneling atomic force microscopy. Applied Physics Letters, 2014, 104, .	1.5	26
53	Three-dimensional kinetic Monte Carlo simulations of diamond chemical vapor deposition. Journal of Chemical Physics, 2015, 142, 214707.	1.2	26
54	A review of surface functionalisation of diamond for thermionic emission applications. Carbon, 2021, 171, 532-550.	5.4	26

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55	Promising electrochemical performance of high-surface-area boron-doped diamond/carbon nanotube electroanalytical sensors. Journal of Solid State Electrochemistry, 2016, 20, 2403-2409.	1.2	25
56	Superconducting Ferromagnetic Nanodiamond. ACS Nano, 2017, 11, 5358-5366.	7.3	25
57	Simplified Monte Carlo simulations of chemical vapour deposition diamond growth. Journal of Physics Condensed Matter, 2009, 21, 364203.	0.7	24
58	Incorporation of lithium and nitrogen into CVD diamond thin films. Diamond and Related Materials, 2014, 44, 1-7.	1.8	23
59	Potential for diamond fibres and diamond fibre composites. Materials Science and Technology, 1994, 10, 505-512.	0.8	22
60	Nanofocusing optics for synchrotron radiation made from polycrystalline diamond. Optics Express, 2014, 22, 7657.	1.7	22
61	Effect of Multi-Walled Carbon Nanotubes Incorporation on the Structure, Optical and Electrochemical Properties of Diamond-Like Carbon Thin Films. Journal of the Electrochemical Society, 2014, 161, H290-H295.	1.3	22
62	Monte Carlo simulations of electron distributions in the sheath region of reactiveâ€•ionâ€•etching plasmas. Journal of Applied Physics, 1993, 73, 1634-1643.	1.1	21
63	Isolation and Structural Proof of the Large Diamond Molecule, Cyclohexamantane (C26H30). Angewandte Chemie, 2003, 115, 2086-2090.	1.6	21
64	Simulations of chemical vapor deposition diamond film growth using a kinetic Monte Carlo model and two-dimensional models of microwave plasma and hot filament chemical vapor deposition reactors. Journal of Applied Physics, 2010, 108, .	1.1	20
65	Chemical vapour deposited diamond fibres: manufacture and potential properties. Materials Science and Technology, 1994, 10, 177-189.	0.8	19
66	Laser Raman Studies of Polycrystalline and Amorphic Diamond Films. Physica Status Solidi A, 1996, 154, 255-268.	1.7	18
67	Preparation of solid and hollow diamond fibres and the potential for diamond fibre metal matrix composites. Journal of Materials Science Letters, 1994, 13, 247-249.	0.5	17
68	Solid phosphorus carbide?. Chemical Communications, 2002, , 2494-2495.	2.2	16
69	Binary phosphorus-carbon compounds: The series P4C3+8n. International Journal of Quantum Chemistry, 2003, 95, 546-553.	1.0	16
70	Hierarchical architecture of self-assembled carbon nitride nanocrystals. Journal of Materials Chemistry, 2007, 17, 1255.	6.7	16
71	Bosonic Confinement and Coherence in Disordered Nanodiamond Arrays. ACS Nano, 2017, 11, 11746-11754.	7.3	16
72	Negative electron affinity from aluminium on the diamond (1â€‰0â€‰0) surface: a theoretical study. Journal of Physics Condensed Matter, 2018, 30, 235002.	0.7	15

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73	Growth and characterization of self-assembled carbon nitride leaf-like nanostructures. Nanotechnology, 2006, 17, 5798-5804.	1.3	14
74	Modeling of the gas-phase chemistry in Câ€“Hâ€“O gas mixtures for diamond chemical vapor deposition. Journal of Applied Physics, 2001, 89, 5219-5223.	1.1	13
75	Thermoluminescence assessment of 0.5, 1.0 and 4.0â€‰Âµm thick HFCVD undoped diamond films. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2103-2108.	0.8	12
76	Deep reactive ion etching of silicon moulds for the fabrication of diamond x-ray focusing lenses. Journal of Micromechanics and Microengineering, 2013, 23, 125018.	1.5	10
77	<i>Ab initio</i> study of negative electron affinity from light metals on the oxygen-terminated diamond (1â€‰1â€‰1) surface. Journal of Physics Condensed Matter, 2019, 31, 295002.	0.7	10
78	Linear-supralinear-sublinear beta-ray dose dependences of TL, OSL and afterglow in undoped CVD diamond. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2125-2130.	0.8	9
79	Effect of doping on electronic states in B-doped polycrystalline CVD diamond films. Semiconductor Science and Technology, 2012, 27, 065019.	1.0	9
80	Yu-Shiba-Rusinov bands in ferromagnetic superconducting diamond. Science Advances, 2020, 6, eaaz2536.	4.7	9
81	Hunting the elusive shallow n-type donor â€“ An ab initio study of Li and N co-doped diamond. Carbon, 2021, 171, 857-868.	5.4	9
82	A technique for the manufacture of long hollow diamond fibres by chemical vapour deposition. Journal of Materials Science Letters, 1995, 14, 1448-1450.	0.5	8
83	Electrospray Deposition of Diamond Nanoparticle Nucleation Layers for Subsequent CVD Diamond Growth. Materials Research Society Symposia Proceedings, 2009, 1203, 1.	0.1	8
84	Photochemically modified diamond-like carbon surfaces for neural interfaces. Materials Science and Engineering C, 2016, 58, 1199-1206.	3.8	8
85	Hydrophobic behaviour of reduced graphene oxide thin film fabricated via electrostatic spray deposition. Bulletin of Materials Science, 2021, 44, 1.	0.8	8
86	Resolving physical interactions between bacteria and nanotopographies with focused ion beam scanning electron microscopy. IScience, 2021, 24, 102818.	1.9	8
87	Spatially Controlling Neuronal Adhesion and Inflammatory Reactions on Implantable Diamond. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2011, 1, 557-565.	2.7	7
88	Direct observation of electron emission from CVD diamond grain boundaries by tunnelling atomic force microscopy independent of surface morphology. Diamond and Related Materials, 2017, 80, 147-152.	1.8	7
89	Ab initio study of negative electron affinity on the scandium-terminated diamond (100) surface for electron emission devices. Carbon, 2022, 196, 176-185.	5.4	6
90	Sulfur addition to microwave activated CH4/CO2 gas mixtures used for diamond CVD: growth studies and gas phase investigations. Physical Chemistry Chemical Physics, 2002, 4, 5199-5206.	1.3	5

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91	Anomalous Anisotropy in Superconducting Nanodiamond Films Induced by Crystallite Geometry. Physical Review Applied, 2019, 12, .	1.5	5
92	Experimental Studies of Electron Affinity and Work Function from Aluminium on Oxidized Diamond (100) and (111) Surfaces. Physica Status Solidi (B): Basic Research, 2021, 258, 2100027.	0.7	5
93	Superconductor-insulator transition driven by pressure-tuned intergrain coupling in nanodiamond films. Physical Review Materials, 2019, 3, .	0.9	5
94	Review of the Molecule of the Month Website in 1997. Molecules, 1998, 3, 16-19.	1.7	4
95	FIELD EMISSION STUDIES OF NITROGEN-DOPED DIAMOND-LIKE CARBON FILMS DEPOSITED USING CH4/N2/Ne and CH4/NH3/Ne RF PLASMAS. International Journal of Modern Physics B, 2000, 14, 295-300.	1.0	4
96	DIAMOND-FIBRE REINFORCED PLASTIC COMPOSITES. International Journal of Modern Physics B, 2002, 16, 906-911.	1.0	4
97	Symmetric organization of self-assembled carbon nitride. Nanotechnology, 2007, 18, 335605.	1.3	4
98	High-pressure dc glow discharges in hollow diamond cathodes. Plasma Sources Science and Technology, 2016, 25, 025005.	1.3	4
99	The â€˜Molecule of the Monthâ€™ Websiteâ€"An Extraordinary Chemistry Educational Resource Online for over 20 Years. Molecules, 2017, 22, 549.	1.7	4
100	Comparative study of TL created in undoped CVD diamond by <i>Î²</i> rays, UV and visible light. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2119-2124.	0.8	3
101	Correlation between thermally and optically stimulated luminescence in betaâ€irradiated undoped CVD diamond. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2098-2102.	0.8	2
102	Simulations of CVD Diamond Film Growth: 2D Models for the identities and concentrations of gas-phase species adsorbing on the surface. Materials Research Society Symposia Proceedings, 2011, 1282, 9.	0.1	1
103	In-situ Incorporation of Lithium and Nitrogen into CVD Diamond Thin Films. Materials Research Society Symposia Proceedings, 2012, 1511, 1.	0.1	1
104	Hydrophobicity and Adhesion of Aggregated Diamond Particles. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, .	0.8	1
105	Titelbild: Isolation and Structural Proof of the Large Diamond Molecule, Cyclohexamantane (C26H30) (Angew. Chem. 18/2003). Angewandte Chemie, 2003, 115, 2029-2029.	1.6	0
106	Cover Picture: Isolation and Structural Proof of the Large Diamond Molecule, Cyclohexamantane (C26H30) (Angew. Chem. Int. Ed. 18/2003). Angewandte Chemie - International Edition, 2003, 42, 1983-1983.	7.2	0
107	High resolution Deep Level Transient Spectroscopy of p-n diodes formed from p-type polycrystalline diamond on n-type silicon.. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	0
108	Intrinsic DC operation and performance potential of 50nm gate length hydrogen-terminated diamond field effect transistors. , 2011, , .		0

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109	Deposition of CVD diamond onto Zirconium. Materials Research Society Symposia Proceedings, 2015, 1734, 13.	0.1	0
110	CVD Diamond and Nanodiamond: Versatile Materials for Countering a Wide Range of CBRN Threats. NATO Science for Peace and Security Series B: Physics and Biophysics, 2020, , 141-170.	0.2	0