Patrick J Mcnally

List of Publications by Year
in descending order

119	1,292	471509 17	501196 28
papers	citations	h-index	g-index

123	123	123	1102
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A comparative study of Pd/Sn/Au, Au/Ge/Au/Ni/Au, Au-Ge/Ni and Ni/Au-Ge/Ni ohmic contacts to n-GaAs. Microelectronic Engineering, 1998, 40, 35-42.	2.4	250
2	Citrate-Capped Gold Nanoparticle Electrophoretic Heat Production in Response to a Time-Varying Radio-Frequency Electric Field. Journal of Physical Chemistry C, 2012, 116, 24380-24389.	3.1	60
3	Characterization of the carrot defect in 4H-SiC epitaxial layers. Journal of Crystal Growth, 2010, 312, 1828-1837.	1.5	45
4	Growth of CuCl thin films by magnetron sputtering for ultraviolet optoelectronic applications. Journal of Applied Physics, 2006, 100, 033520.	2.5	37
5	Room-temperature ultraviolet luminescence from Î³-CuCl grown on near lattice-matched silicon. Journal of Applied Physics, 2005, 98, 113512.	2.5	31
6	Evaluation via powder metallurgy of nano-reinforced iron powders developed for selective laser melting applications. Materials and Design, 2019, 182, 108046.	7.0	30
7	Dislocation dynamics and slip band formation in silicon: In-situ study by X-ray diffraction imaging. Journal of Crystal Growth, 2011, 318, 1157-1163.	1.5	29
8	Crack propagation and fracture in silicon wafers under thermal stress. Journal of Applied Crystallography, 2013, 46, 849-855.	4.5	29
9	Low Temperature Growth GaAs on Ge. Japanese Journal of Applied Physics, 2005, 44, 7777-7784.	1.5	28
10	Synchrotron White-Beam X-Ray Topography Analysis of the Defect Structure of HVPE-GaN Substrates. ECS Journal of Solid State Science and Technology, 2015, 4, P324-P330.	1.8	23
11	Hybrid organicâ€“inorganic spin-on-glass CuCl films for optoelectronic applications. Journal Physics D: Applied Physics, 2009, 42, 225307.	2.8	21
12	Deposition of earth-abundant p-type CuBr films with high hole conductivity and realization of p-CuBr/n-Si heterojunction solar cell. Materials Letters, 2013, 111, 63-66.	2.6	20
13	Impact on structural, optical and electrical properties of CuCl by incorporation of Zn for n-type doping. Journal of Crystal Growth, 2006, 287, 139-144.	1.5	19
14	Thermal slip sources at the extremity and bevel edge of silicon wafers. Journal of Applied Crystallography, 2011, 44, 489-494.	4.5	19
15	Encapsulation of the heteroepitaxial growth of wide band gap Î³-CuCl on silicon substrates. Journal of Crystal Growth, 2006, 287, 112-117.	1.5	18
16	Antimony for n-type metal oxide semiconductor ultrashallow junctions in strained Si: A superior dopant to arsenic?. Journal of Vacuum Science & Technology B, 2008, 26, 391.	1.3	18
17	Observation of nano-indent induced strain fields and dislocation generation in silicon wafers using micro-Raman spectroscopy and white beam X-ray topography. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 383-387.	1.4	18
18	Evaluation and comparison of hydroxyapatite coatings deposited using both thermal and non-thermal techniques. Surface and Coatings Technology, 2013, 226, 82-91.	4.8	18

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19	Highly conductive Sb-doped layers in strained Si. Applied Physics Letters, 2006, 89, 182122.	3.3	17
20	Comprehensive investigation of Geâ€“Si bonded interfaces using oxygen radical activation. Journal of Applied Physics, 2011, 109, .	2.5	16
21	Prediction of the propagation probability of individual cracks in brittle single crystal materials. Applied Physics Letters, 2012, 101, 041903.	3.3	15
22	Non-destructive laboratory-based X-ray diffraction mapping of warpage in Si die embedded in IC packages. Microelectronic Engineering, 2014, 117, 48-56.	2.4	15
23	Constraints on micro-Raman strain metrology for highly doped strained Si materials. Applied Physics Letters, 2008, 92, .	3.3	14
24	Dislocation generation related to micro-cracks in Si wafers: High temperature in situ study with white beam X-ray topography. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 399-402.	1.4	14
25	Characteristics of silicon nanocrystals for photovoltaic applications. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 604-607.	1.8	14
26	Evaluation of the chemical, electronic and optoelectronic properties of Î³-CuCl thin films and their fabrication on Si substrates. Journal Physics D: Applied Physics, 2007, 40, 3461-3467.	2.8	13
27	Dislocation sources and slip band nucleation from indents on silicon wafers. Journal of Applied Crystallography, 2010, 43, 1036-1039.	4.5	13
28	Realâ€time Xâ€ray diffraction imaging for semiconductor wafer metrology and high temperature in situ experiments. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2499-2504.	1.8	13
29	White beam topography of 300Âmm Si wafers. Journal of Materials Science: Materials in Electronics, 2008, 19, 269-272.	2.2	12
30	Structural investigation of MOVPE-grown GaAs on Ge by x-ray techniques. Semiconductor Science and Technology, 2012, 27, 115012.	2.0	12
31	Dellafossite CuAlO2 film growth and conversion to Cuâ€“Al2O3 metal ceramic composite via control of annealing atmospheres. CrystEngComm, 2013, 15, 6144.	2.6	12
32	Laser-powder bed fusion of silicon carbide reinforced 316L stainless steel using a sinusoidal laser scanning strategy. Journal of Materials Research and Technology, 2022, 18, 2672-2698.	5.8	12
33	Low temperature growth technique for nanocrystalline cuprous oxide thin films using microwave plasma oxidation of copper. Materials Letters, 2012, 71, 160-163.	2.6	11
34	Influence of substrate metal alloy type on the properties of hydroxyapatite coatings deposited using a novel ambient temperature deposition technique. Journal of Biomedical Materials Research - Part A, 2014, 102, 871-879.	4.0	11
35	Femtosecond Laser Assisted Crystallization of Gold Thin Films. Nanomaterials, 2021, 11, 1186.	4.1	11
36	Crystal Defects and Strain of Epitaxial InP Layers Laterally Overgrown on Si. Crystal Growth and Design, 2006, 6, 1096-1100.	3.0	10

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37	Synchrotron topography and X-ray diffraction study of GaInP layers grown on GaAs/Ge. Journal of Crystal Growth, 2009, 311, 4619-4627.	1.5	10
38	Growth and Properties of SiC On-Axis Homoepitaxial Layers. Materials Science Forum, 2010, 645-648, 83-88.	0.3	10
39	Growth of n-type Î³-CuCl with improved carrier concentration by pulsed DC sputtering: Structural, electronic and UV emission properties. Thin Solid Films, 2011, 519, 6064-6068.	1.8	10
40	Optical properties of undoped and oxygen doped CuCl films on silicon substrates. Journal of Materials Science: Materials in Electronics, 2009, 20, 76-80.	2.2	9
41	X-ray diffraction imaging of dislocation generation related to microcracks in Si wafers. Powder Diffraction, 2010, 25, 99-103.	0.2	9
42	Ultrathin chromium transparent metal contacts by pulsed dc magnetron sputtering. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1586-1589.	1.8	9
43	Three-dimensional X-ray diffraction imaging of process-induced dislocation loops in silicon. Journal of Applied Crystallography, 2011, 44, 526-531.	4.5	8
44	X-ray diffraction imaging for predictive metrology of crack propagation in 450-mm diameter silicon wafers. Powder Diffraction, 2013, 28, 95-99.	0.2	8
45	Highly enhanced UV responsive conductivity and blue emission in transparent CuBr films: implication for emitter and dosimeter applications. Journal of Materials Chemistry C, 2017, 5, 10270-10279.	5.5	8
46	The importance of the Pd to Sn ratio and of annealing cycles on the performance of Pd/Sn ohmiccontacts to n-GaAs. Thin Solid Films, 1997, 292, 264-269.	1.8	7
47	4H-SiC Epitaxial Layers Grown on On-Axis Si-Face Substrate. Materials Science Forum, 2007, 556-557, 53-56.	0.3	7
48	Temperature dependent optical properties of UV emitting Î³-CuCl thin films. Thin Solid Films, 2008, 516, 1439-1442.	1.8	7
49	Optical properties of CuCl films on silicon substrates. Physica Status Solidi (B): Basic Research, 2008, 245, 2808-2814.	1.5	7
50	Electroluminescence of Î³-CuBr thin films via vacuum evaporation depositon. Journal Physics D: Applied Physics, 2010, 43, 165101.	2.8	7
51	CuBr blue light emitting electroluminescent thin film devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2919-2922.	0.8	7
52	Local strain and defects in silicon wafers due to nanoindentation revealed by full-field X-ray microdiffraction imaging. Journal of Synchrotron Radiation, 2015, 22, 1083-1090.	2.4	7
53	Investigation of stress effects on the direct current characteristics of GaAs metalâ€semiconductor fieldâ€effect transistors through the use of externally applied loads. Applied Physics Letters, 1988, 52, 1800-1802.	3.3	6
54	Thermal stability of the non-alloyed Pd/Sn and Pd/Ge Ohmic contacts to n-GaAs. Thin Solid Films, 1997, 308-309, 607-610.	1.8	6

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55	Towards the fabrication of a UV light source based on CuCl thin films. Journal of Materials Science: Materials in Electronics, 2007, 18, 21-23.	2.2	6
56	Influence of target to substrate distance on the sputtered CuCl film properties. Thin Solid Films, 2008, 516, 5531-5535.	1.8	6
57	Study of exciton-polariton modes in nanocrystalline thin films of CuCl using reflectance spectroscopy. Journal of Applied Physics, 2012, 112, 033505.	2.5	6
58	Laser machined macro and micro structures on glass for enhanced light trapping in solar cells. Applied Physics A: Materials Science and Processing, 2013, 110, 661-665.	2.3	6
59	Nondestructive Monitoring of Die Warpage in Encapsulated Chip Packages. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 653-662.	2.5	6
60	Quantitative Imaging of the Stress/Strain Fields and Generation of Macroscopic Cracks from Indents in Silicon. Crystals, 2017, 7, 347.	2.2	6
61	The use of generalised models to explain the behaviour of ohmic contacts to n-type GaAs. Solid-State Electronics, 1992, 35, 1705-1708.	1.4	5
62	Effects of Au overlayers on the electrical and morphological characteristics of Pd/Sn ohmic contacts to n-GaAs. Thin Solid Films, 1996, 290-291, 417-421.	1.8	5
63	Analysis of the impact of dislocation distribution on the breakdown voltage of GaAsâ€based power varactor diodes. Journal of Applied Physics, 1996, 79, 8294-8297.	2.5	5
64	An evaluation of liquid phase epitaxial InGaAs/InAs heterostructures for infrared devices using synchrotron x-ray topography. Semiconductor Science and Technology, 1998, 13, 345-349.	2.0	5
65	On the use of total reflection x-ray topography for the observation of misfit dislocation strain at the surface of a Si/Geâ€“Si heterostructure. Applied Physics Letters, 2000, 77, 1644-1646.	3.3	5
66	Characterisation of n-type Î³-CuCl on Si for UV optoelectronic applications. Journal of Materials Science: Materials in Electronics, 2007, 18, 57-60.	2.2	5
67	Growth and characterisation of epitaxially ordered zinc aluminate domains on c-sapphire. Thin Solid Films, 2008, 516, 1725-1735.	1.8	5
68	UV emission on a Si substrate: Optical and structural properties of Î³-CuCl on Si grown using liquid phase epitaxy techniques. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 923-926.	1.8	5
69	Combined use of three-dimensional X-ray diffraction imaging and micro-Raman spectroscopy for the non-destructive evaluation of plasma arc induced damage on silicon wafers. Microelectronic Engineering, 2011, 88, 64-71.	2.4	5
70	A novel X-ray diffraction technique for analysis of die stress inside fully encapsulated packaged chips. , 2012, , .		5
71	Development of B-spline X-ray Diffraction Imaging techniques for die warpage and stress monitoring inside fully encapsulated packaged chips. , 2014, , .		5
72	The geometry of catastrophic fracture during high temperature processing of silicon. International Journal of Fracture, 2015, 195, 79-85.	2.2	5

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73	Stoichiometry control of sputtered CuCl thin films: Influence on ultraviolet emission properties. Journal of Applied Physics, 2006, 100, 096108.	2.5	4
74	The evaluation of mechanical stresses developed in underlying silicon substrates due to electroless nickel under bump metallization using synchrotron X-ray topography. Microelectronics Journal, 2006, 37, 1372-1378.	2.0	4
75	Synchrotron X-ray topography study of defects in epitaxial GaAs on high-quality Ge. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 563, 62-65.	1.6	4
76	Femtosecond versus nanosecond laser micro-machining of InP: a nondestructive three-dimensional analysis of strain. Semiconductor Science and Technology, 2007, 22, 970-979.	2.0	4
77	In-situ optical reflectance and synchrotron X-ray topography study of defects in epitaxial dilute GaAsN on GaAs. Journal of Materials Science: Materials in Electronics, 2008, 19, 137-142.	2.2	4
78	Electrical studies on sputtered CuCl thin films. Journal of Materials Science: Materials in Electronics, 2008, 19, 103-106.	2.2	4
79	Electrical properties of Î³-CuCl thin films. Journal of Materials Science: Materials in Electronics, 2009, 20, 144-148.	2.2	4
80	Structural, optical and electrical properties of Coâ€evaporated CuCl/KCl films. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S114.	0.8	4
81	3D imaging of crystal defects. Nature, 2013, 496, 37-38.	27.8	4
82	Influence of Oxygen Plasma on the Growth, Structure, Morphology, and Electro-Optical Properties of p-Type Transparent Conducting CuBr Thin Films. Journal of Physical Chemistry C, 2014, 118, 23226-23232.	3.1	4
83	Pulsed-Plasma Physical Vapor Deposition Approach Toward the Facile Synthesis of Multilayer and Monolayer Graphene for Anticoagulation Applications. ACS Applied Materials & Interfaces, 2016, 8, 4878-4886.	8.0	4
84	Non-melt selective enhancement of crystalline structure in molybdenum thin films using femtosecond laser pulses. Journal Physics D: Applied Physics, 2022, 55, 115301.	2.8	4
85	Modelling the effects of piezoelectrically active defects and their impact on the threshold voltage of GaAs metal-semiconductor field effect transistors. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1994, 28, 248-252.	3.5	3
86	Comparison of pd/sn and pd/sn/au thin-film Systems for Device Metallization. Materials Research Society Symposia Proceedings, 1996, 427, 583.	0.1	3
87	Thermally stable Pd/Sn and Pd/Sn/Au ohmic contacts to n-type GaAs. Thin Solid Films, 1998, 320, 253-259.	1.8	3
88	Self-organized ZnAl2O4 nanostructures grown on -sapphire. Superlattices and Microstructures, 2007, 42, 327-332.	3.1	3
89	Morphological, optical and electrical properties of Î³ CuCl deposited by vacuum evaporation. Journal of Materials Science: Materials in Electronics, 2008, 19, 99-101.	2.2	3
90	Structural and electrical characterisation of ion-implanted strained silicon. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 118-121.	3.5	3

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91	Multi-technique characterisation of MOVPE-grown GaAs on Si. Microelectronic Engineering, 2011, 88, 472-475.	2.4	3
92	Influence of mechanical defects on the crystal lattice of silicon. Crystal Research and Technology, 2012, 47, 253-260.	1.3	3
93	Structural and optical properties of post-annealed atomic-layer-deposited HfO 2 thin films on GaAs. Thin Solid Films, 2014, 569, 104-112.	1.8	3
94	Temperature dependent photoluminescence of nanocrystalline Î³-CuCl hybrid films. Thin Solid Films, 2014, 564, 104-109.	1.8	3
95	(Invited) Synchrotron White-Beam X-Ray Topography Analysis of the Defect Structure of HVPE-GaN Substrates. ECS Transactions, 2015, 66, 93-106.	0.5	3
96	X-ray imaging of silicon die within fully packaged semiconductor devices. Powder Diffraction, 2021, 36, 78-84.	0.2	3
97	Dislocations and dislocation reduction in space grown GaSb. Crystal Research and Technology, 2009, 44, 1109-1114.	1.3	2
98	Poly(vinylpyrrolidone)â€stabilized silver nanoparticles for strainedâ€silicon surface enhanced Raman spectroscopy. Journal of Raman Spectroscopy, 2011, 42, 2085-2088.	2.5	2
99	Soft x-ray spectroscopic investigation of Zn doped CuCl produced by pulsed dc magnetron sputtering. Journal of Physics Condensed Matter, 2013, 25, 285501.	1.8	2
100	B-Spline X-Ray Diffraction Imaging techniques for die warpage and stress monitoring inside fully encapsulated packaged chips. , 2015, , .		2
101	Laser-powder bed fusion in-process dispersion of reinforcing ceramic nanoparticles onto powder beds via colloid nebulisation. Materials Chemistry and Physics, 2022, 287, 126245.	4.0	2
102	Piezoelectrically-active defects and their impact on the performance of GaAs MESFETs. Journal of Materials Processing Technology, 1995, 55, 303-310.	6.3	1
103	<title>Correlation between crystal morphology and x-ray performance of a CdZnTe detector</title>. , 1997, , .		1
104	Non-alloyed Pd/Sn and Pd/Sn/Au Ohmic Contacts for GaAs MESFETs: Technology and Performance. Solid-State Electronics, 2000, 44, 655-661.	1.4	1
105	Modeling of harmonic contributions to non-symmetrical RF plasmas. Journal of Materials Processing Technology, 2001, 118, 343-349.	6.3	1
106	Non-Destructive Measurement of Deep Embedded Defects in Silicon using Photoacoustic Microscope (PAM). Materials Research Society Symposia Proceedings, 2006, 914, 1.	0.1	1
107	Preparation and Temperature Cycling Reliability of Electroless Ni(P) Under Bump Metallization. IEEE Transactions on Components and Packaging Technologies, 2007, 30, 144-151.	1.3	1
108	An X-Ray Topographic Analysis of the Crystal Quality of Globally Available SiC Wafers. Materials Science Forum, 2007, 556-557, 227-230.	0.3	1

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109	Dislocations in GaAs p-i-n diodes grown by hydride vapour phase epitaxy. Journal of Materials Science: Materials in Electronics, 2008, 19, 149-154.	2.2	1
110	Dislocations at the interface between sapphire and GaN. Journal of Materials Science: Materials in Electronics, 2008, 19, 143-148.	2.2	1
111	Raman scattering studies of ultrashallow Sb implants in strained Si. Journal of Materials Science: Materials in Electronics, 2008, 19, 305-309.	2.2	1
112	Evaluation of conduction mechanism and electronic parameters for Au/organicâ€“inorganic CuCl hybrid film/ITO structures. Semiconductor Science and Technology, 2011, 26, 095021.	2.0	1
113	Remote sensing of a low pressure plasma in the radio near field. Applied Physics Express, 2017, 10, 096101.	2.4	1
114	Influence of H2 Preconditioning on the Nucleation and Growth of Self-Assembled Germanium Islands on Silicon (001). Materials Research Society Symposia Proceedings, 2004, 820, 358.	0.1	0
115	Structural and optoelectronic properties of sputtered copper (I) chloride. , 2005, , .		0
116	An Evaluation of an Automated Detection Algorithm to Count Defects Present in X-Ray Topographical Images of SiC Wafers. Materials Research Society Symposia Proceedings, 2007, 994, 1.	0.1	0
117	Spatially Resolved Investigation of the Optical and Structural Properties of CuCl Thin Films on Si. , 2010, , .		0
118	Interaction of SF6and O2plasma with porous poly phenyl methyl silsesquioxane low-Îºfilms. Journal Physics D: Applied Physics, 2015, 48, 125201.	2.8	0
119	Structural and Compositional Evolution of Self-Assembled Germanium Islands on Silicon (001) During High Growth Rate LPCVD. Materials Research Society Symposia Proceedings, 2003, 775, 9251.	0.1	0