Slawomir Prucnal

List of Publications by Year
in descending order

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86 papers	1,332 citations	394421 19 h-index	434195 31 g-index
86 all docs	86 docs citations	86 times ranked	1581 citing authors

#	Article	IF	Citations
1	Room-temperature short-wavelength infrared Si photodetector. Scientific Reports, 2017, 7, 43688.	3.3	79
2	A review of thermal processing in the subsecond range: semiconductors and beyond. Semiconductor Science and Technology, 2016, 31, 103001.	2.0	70
3	Ultra-doped n-type germanium thin films for sensing in the mid-infrared. Scientific Reports, 2016, 6, 27643.	3.3	64
4	Switchable two-color electroluminescence based on a Si metal-oxide-semiconductor structure doped with Eu. Applied Physics Letters, 2007, 90, 181121.	3.3	62
5	Rise and fall of defect induced ferromagnetism in SiC single crystals. Applied Physics Letters, 2011, 98, .	3.3	50
6	Blue shift in absorption edge and widening of band gap of ZnO by Al doping and Alâ€“N co-doping. Journal of Alloys and Compounds, 2015, 644, 528-533.	5.5	49
7	Hyperdoping silicon with selenium: solid vs. liquid phase epitaxy. Scientific Reports, 2015, 5, 8329.	3.3	49
8	Extended Infrared Photoresponse in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Te</mml:mi></mml:math>-Hyperdoped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Si</mml:mi></mml:math>at Room Temperature. Physical Review Applied, 2018, 10, .	3.8	45
9	Doping by flash lamp annealing. Materials Science in Semiconductor Processing, 2017, 62, 115-127.	4.0	44
10	Breaking the Doping Limit in Silicon by Deep Impurities. Physical Review Applied, 2019, 11, .	3.8	44
11	Structural and optical properties of pulsed-laser deposited crystalline Î²-Ga₂O₃ thin films on silicon. Semiconductor Science and Technology, 2019, 34, 035001.	2.0	39
12	Impact of Self-Trapped Excitons on Blue Photoluminescence in TiO₂ Nanorods on Chemically Etched Si Pyramids. Journal of Physical Chemistry C, 2017, 121, 11448-11454.	3.1	38
13	Self-Driven Broadband Photodetectors Based on MoSe₂/FePS₃ van der Waals nâ€“p Type-II Heterostructures. ACS Applied Materials & Interfaces, 2022, 14, 11927-11936.	8.0	35
14	Disentangling defect-induced ferromagnetism in SiC. Physical Review B, 2014, 89, .	3.2	25
15	n-InAs Nanopyramids Fully Integrated into Silicon. Nano Letters, 2011, 11, 2814-2818.	9.1	23
16	The photoluminescence response to structural changes of Yb implanted ZnO crystals subjected to non-equilibrium processing. Journal of Applied Physics, 2017, 121, .	2.5	23
17	Ge1â^'xSnx alloys synthesized by ion implantation and pulsed laser melting. Applied Physics Letters, 2014, 105, .	3.3	22
18	Enhanced Trion Emission in Monolayer MoSe₂ by Constructing a Typeâ€Ⅱ Van Der Waals Heterostructure. Advanced Functional Materials, 2021, 31, 2104960.	14.9	21

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19	Chlorine doping of MoSe₂ flakes by ion implantation. Nanoscale, 2021, 13, 5834-5846.	5.6	21
20	InP nanocrystals on silicon for optoelectronic applications. Nanotechnology, 2012, 23, 485204.	2.6	19
21	An Energyâ€Efficient, BiFeO₃â€Coated Capacitive Switch with Integrated Memory and Demodulation Functions. Advanced Electronic Materials, 2016, 2, 1500352.	5.1	19
22	Engineering of optical and electrical properties of ZnO by non-equilibrium thermal processing: The role of zinc interstitials and zinc vacancies. Journal of Applied Physics, 2017, 122, 035303.	2.5	17
23	On the insulator-to-metal transition in titanium-implanted silicon. Scientific Reports, 2018, 8, 4164.	3.3	17
24	Strain and Band-Gap Engineering in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Ge</mml:mi></mml:math> - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Sn</mml:mi></mml:math> Alloys via <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mrow><mml:mrow><mml:mi mathvariant="normal">P</mml:mi></mml:mrow	3.8	17
25	Optoelectronic properties of ZnO film on silicon after SF₆ plasma treatment and milliseconds annealing. Applied Physics Letters, 2014, 105, 221903.	3.3	15
26	IIIâ€“V semiconductor nanocrystal formation in silicon nanowires via liquid-phase epitaxy. Nano Research, 2014, 7, 1769-1776.	10.4	15
27	Hydrogen engineering via plasma immersion ion implantation and flash lamp annealing in silicon-based solar cell substrates. Journal of Applied Physics, 2014, 115, 064505.	2.5	14
28	Synthesis, Morphological, and Electro-optical Characterizations of Metal/Semiconductor Nanowire Heterostructures. Nano Letters, 2016, 16, 3507-3513.	9.1	14
29	Epitaxial Mn5Ge3 (100) layer on Ge (100) substrates obtained by flash lamp annealing. Applied Physics Letters, 2018, 113, .	3.3	14
30	Band-gap narrowing in Mn-doped GaAs probed by room-temperature photoluminescence. Physical Review B, 2015, 92, .	3.2	13
31	Ex situ n⁺ doping of GeSn alloys via non-equilibrium processing. Semiconductor Science and Technology, 2018, 33, 065008.	2.0	13
32	Thermal stability of Te-hyperdoped Si: Atomic-scale correlation of the structural, electrical, and optical properties. Physical Review Materials, 2019, 3, .	2.4	13
33	Millisecond annealing for advanced doping of dirty-silicon solar cells. Journal of Applied Physics, 2012, 111, 123104.	2.5	12
34	III-V/Si on silicon-on-insulator platform for hybrid nanoelectronics. Journal of Applied Physics, 2014, 115, .	2.5	12
35	Structural and magnetic properties of irradiated SiC. Journal of Applied Physics, 2014, 115, 17C104.	2.5	12
36	Kinetics of Bulk Lifetime Degradation in Floatâ€Zone Silicon: Fast Activation and Annihilation of Grownâ€in Defects and the Role of Hydrogen versus Light. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000436.	1.8	12

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37	Reactivation of damaged rare earth luminescence centers in ion-implanted metalâ€“oxideâ€“silicon light emitting devices. Applied Physics B: Lasers and Optics, 2008, 91, 123-126.	2.2	11
38	Structural and optical studies of Pr implanted ZnO films subjected to a long-time or ultra-fast thermal annealing. Thin Solid Films, 2017, 643, 24-30.	1.8	11
39	CMOSâ€Compatible Controlled Hyperdoping of Silicon Nanowires. Advanced Materials Interfaces, 2018, 5, 1800101.	3.7	11
40	Temperature stable 13 Î¼m emission from GaAs. Optics Express, 2012, 20, 26075.	3.4	10
41	Formation and photoluminescence of GaAs1â^'xNx dilute nitride achieved by N-implantation and flash lamp annealing. Applied Physics Letters, 2014, 105, 012107.	3.3	10
42	The effect of millisecond flash lamp annealing on electrical and structural properties of ZnO:Al/Si structures. Journal of Applied Physics, 2016, 119, 185305.	2.5	10
43	In situ ohmic contact formation for n-type Ge via non-equilibrium processing. Semiconductor Science and Technology, 2017, 32, 115006.	2.0	10
44	Solar Cell Emitters Fabricated by Flash Lamp Millisecond Annealing. Acta Physica Polonica A, 2011, 120, 30-34.	0.5	10
45	Origin and enhancement of the 1.3â€‰Î¼m luminescence from GaAs treated by ion-implantation and flash lamp annealing. Journal of Applied Physics, 2013, 114, .	2.5	9
46	Band gap renormalization in n-type GeSn alloys made by ion implantation and flash lamp annealing. Journal of Applied Physics, 2019, 125, .	2.5	9
47	Thermal Stability of Defectâ€Enhanced Ge on Si Quantum Dot Luminescence upon Millisecond Flash Lamp Annealing. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900307.	1.8	9
48	Phase Selection in Mnâ€“Si Alloys by Fast Solidâ€State Reaction with Enhanced Skyrmion Stability. Advanced Functional Materials, 2021, 31, 2009723.	14.9	9
49	Nematicity of correlated systems driven by anisotropic chemical phase separation. Physical Review Materials, 2018, 2, .	2.4	9
50	Mid- and far-infrared localized surface plasmon resonances in chalcogen-hyperdoped silicon. Nanoscale, 2022, 14, 2826-2836.	5.6	9
51	Ferromagnetic GaMnP Prepared by Ion Implantation and Pulsed Laser Annealing. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	8
52	Polycrystalline ZnTe thin film on silicon synthesized by pulsed laser deposition and subsequent pulsed laser melting. Materials Research Express, 2016, 3, 036403.	1.6	8
53	Critical behavior of the insulator-to-metal transition in Te-hyperdoped Si. Physical Review B, 2020, 102, .	3.2	8
54	Blue electroluminescence of ytterbium clusters in SiO2 byÂco-operative up-conversion. Applied Physics B: Lasers and Optics, 2010, 98, 451-454.	2.2	7

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55	Fabrication of Si1-xGexAlloy on Silicon by Ge-Ion-Implantation and Short-Time-Annealing. Acta Physica Polonica A, 2013, 123, 858-861.	0.5	7
56	Enhancement of carrier mobility in thin Ge layer by Sn co-doping. Semiconductor Science and Technology, 2016, 31, 105012.	2.0	7
57	Ion Beam Modification of ZnO Epilayers: Sequential Processing. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700887.	1.8	7
58	Strain-induced switching between noncollinear and collinear spin configuration in magnetic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Mn</mml:mi><mml:mn>5</mml:mn></mml: films. Physical Review B, 2021, 104, .	3.2	7
59	Superconductivity in single-crystalline aluminum- and gallium-hyperdoped germanium. Physical Review Materials, 2019, 3, .	2.4	7
60	Formation of n- and p-type regions in individual Si/SiO₂ core/shell nanowires by ion beam doping. Nanotechnology, 2018, 29, 474001.	2.6	6
61	Ultra-fast annealing manipulated spinodal nano-decomposition in Mn-implanted Ge. Nanotechnology, 2019, 30, 054001.	2.6	6
62	Electron Concentration Limit in Ge Doped by Ion Implantation and Flash Lamp Annealing. Materials, 2020, 13, 1408.	2.9	6
63	IIIâ€“V nanocrystal formation in ion-implanted Ge and Si via liquid phase epitaxy during short-time flash lamp annealing. Materials Science in Semiconductor Processing, 2016, 42, 166-169.	4.0	5
64	Nanoscale n++-p junction formation in GeOI probed by tip-enhanced Raman spectroscopy and conductive atomic force microscopy. Journal of Applied Physics, 2019, 125, 245703.	2.5	5
65	Electrical Characterization of Germanium Nanowires Using a Symmetric Hall Bar Configuration: Size and Shape Dependence. Nanomaterials, 2021, 11, 2917.	4.1	5
66	Rare Earth Ion Implantation for Silicon Based Light Emission: From Infrared to Ultraviolet. Materials Research Society Symposia Proceedings, 2005, 866, 101.	0.1	4
67	Crystalline ripples at the surface of ion eroded strained Si0.8Ge0.2 epilayers. Journal of Applied Physics, 2010, 107, 073513.	2.5	4
68	Comparison of the room temperature 1.53â€‚Î¼m Er photoluminescence from flash lamp and furnace annealed Er-doped Ge-rich SiO2 layers. Journal of Applied Physics, 2010, 107, 113523.	2.5	4
69	Impact of the Backgate on the Performance of SOI UTBB nMOSFETs at Cryogenic Temperatures. , 2021, , .		4
70	Dissolution of donor-vacancy clusters in heavily doped n-type germanium. New Journal of Physics, 2020, 22, 123036.	2.9	4
71	Controlled Silicidation of Silicon Nanowires Using Flash Lamp Annealing. Langmuir, 2021, , .	3.5	4
72	Millisecond processing beyond chip technology: From electronics to photonics. , 2007, , .		3

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73	Phase Selectivity in Cr and N Co-Doped TiO2 Films by Modulated Sputter Growth and Post-Deposition Flash-Lamp-Annealing. Coatings, 2019, 9, 448.	2.6	3
74	Formation and Characterization of Shallow Junctions in GaAs Made by Ion Implantation and msâ€Range Flash Lamp Annealing. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800618.	1.8	3
75	Plasmonic gratings from highly doped Ge1â^'y Sn y films on Si. Journal Physics D: Applied Physics, 2021, 54, 445109.	2.8	3
76	B20â€“MnSi films grown on Si(100) substrates with magnetic skyrmion signature. Materials Today Physics, 2021, 21, 100541.	6.0	2
77	Atomically Thin Delta-Doping of Self-Assembled Molecular Monolayers by Flash Lamp Annealing for Si-Based Deep UV Photodiodes. ACS Applied Materials & Interfaces, 0, , .	8.0	2
78	Electroluminescence (at 316 nm) and electrical stability ofÂaÂMOS light-emitting device operated at different temperatures. Applied Physics B: Lasers and Optics, 2009, 94, 289-293.	2.2	1
79	Formation of silicon nanocrystals in silicon carbide using flash lamp annealing. Journal of Applied Physics, 2016, 120, .	2.5	1
80	An infrared transmission study of Ge:Mn thick films prepared by ion implantation and post-annealing. Journal of Applied Physics, 2020, 127, 103902.	2.5	1
81	Increased dephasing length in heavily doped GaAs. New Journal of Physics, 2021, 23, 083034.	2.9	1
82	Tuning of Curie temperature in Mn₅Ge₃ films. Journal of Applied Physics, 2022, 131, 105102.	2.5	1
83	Capacitive Switching: An Energy-Efficient, BiFeO3-Coated Capacitive Switch with Integrated Memory and Demodulation Functions (Adv. Electron. Mater. 3/2016). Advanced Electronic Materials, 2016, 2, .	5.1	0
84	Beyond Semiconductors. Springer Series in Materials Science, 2019, , 233-282.	0.6	0
85	Semiconductor Applications. Springer Series in Materials Science, 2019, , 131-232.	0.6	0
86	Influence of fabrication parameters on the magnetic and structural properties of Mn₅Ge₃. Semiconductor Science and Technology, 0, , .	2.0	0