

Peter Pichler

List of Publications by Year in descending order

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1109
citing authors

#	ARTICLE	IF	CITATIONS
1	A Review of Platinum Diffusion in Silicon and Its Application for Lifetime Engineering in Power Devices. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, 2100462.	1.8	4
2	Surface Tension and Thermal Conductivity of NIST SRM 1155a (AISI 316L Stainless Steel). International Journal of Thermophysics, 2022, 43, 1.	2.1	3
3	Intrinsic nano-diffusion-couple for studying high temperature diffusion in multi-component superalloys. Scripta Materialia, 2021, 192, 120-124.	5.2	8
4	Re-investigation of the Normal Spectral Emissivity at 684.5 nm of Solid and Liquid Molybdenum. International Journal of Thermophysics, 2021, 42, 1.	2.1	39
5	Molecular dynamics simulations supporting the development of a continuum model of heat transport in nanowires. , 2021, , .		1
6	Measurements of thermophysical properties of solid and liquid NIST SRM 316L stainless steel. Journal of Materials Science, 2020, 55, 4081-4093.	3.7	40
7	Molecular Dynamics Modeling of the Radial Heat Transfer from Silicon Nanowires. , 2020, , .		1
8	Advanced simulations on laser annealing: explosive crystallization and phonon transport corrections. , 2020, , .		2
9	Diffusion of Phosphorus and Boron from Atomic Layer Deposition Oxides into Silicon. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900306.	1.8	4
10	On a Novel Source Technology for Deep Aluminum Diffusion for Silicon Power Electronics. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900167.	1.8	0
11	Platinum in Silicon after Post-Implantation Annealing: From Experiments to Process and Device Simulations. , 2018, , .		1
12	Silicon self-interstitial properties deduced from platinum profiles after annealing with controlled cooling. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700207.	1.8	4
13	3D simulation of silicon-based single-electron transistors. , 2017, , .		11
14	Empirical cluster modeling revisited. , 2016, , .		1
15	Simulating wafer bow for integrated capacitors using a multiscale approach. , 2016, , .		2
16	Modeling the Post-Implantation Annealing of Platinum. Solid State Phenomena, 2015, 242, 258-263.	0.3	3
17	Diffusion and Segregation Model for the Annealing of Silicon Solar Cells Implanted With Phosphorus. IEEE Journal of Photovoltaics, 2015, 5, 129-136.	2.5	0
18	Role of Defects in the Dopant Diffusion in Si. Semiconductors and Semimetals, 2015, , 1-46.	0.7	1

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19	Comprehensive Study of the Electron Scattering Mechanisms in 4H-SiC MOSFETs. IEEE Transactions on Electron Devices, 2015, 62, 2562-2570.	3.0	51
20	Thermo-mechanical ball bonding simulation with elasto-plastic parameters obtained from nanoindentation and atomic force measurements. , 2015, , .		0
21	Impact of acceptor concentration on electrical properties and density of interface states of 4H-SiC n-metal-oxide-semiconductor field effect transistors studied by Hall effect. Applied Physics Letters, 2015, 106, .	3.3	25
22	Effect of Bulk Potential Engineering on the Transport Properties of SiC MOSFETs: Characterization and Interpretation. Materials Science Forum, 2015, 821-823, 737-740.	0.3	0
23	Impact of Fabrication Process on Electrical Properties and on Interfacial Density of States in 4H-SiC n-MOSFETs Studied by Hall Effect. Materials Science Forum, 2014, 806, 127-132.	0.3	2
24	Modeling the Annealing of Dislocation Loops in Implanted c-Si Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 851-858.	2.5	11
25	Modeling platinum diffusion in silicon. Journal of Applied Physics, 2014, 116, .	2.5	13
26	Hall Factor Calculation for the Characterization of Transport Properties in N-Channel 4H-SiC MOSFETs. Materials Science Forum, 2014, 778-780, 483-486.	0.3	3
27	Challenges and opportunities for process modeling in the nanotechnology era. Journal of Computational Electronics, 2014, 13, 3-17.	2.5	4
28	Thermo-mechanical simulation of plastic deformation during temperature cycling of bond wires for power electronic modules. , 2014, , .		4
29	Relaxation of vacancy depth profiles in silicon wafers: A low apparent diffusivity of vacancy species. Applied Physics Letters, 2014, 104, .	3.3	7
30	On an improved boron segregation calibration from a particularly sensitive power MOS process. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 12-15.	0.8	2
31	Simulation of the boron build-up formation during melting laser thermal annealing. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 89-92.	0.8	6
32	Influence of La on the electrical properties of HfSiON: From diffusion to Vth shifts. Microelectronic Engineering, 2013, 109, 200-203.	2.4	2
33	On the strain induced by arsenic into silicon. , 2013, , .		0
34	Extended model for platinum diffusion in silicon. , 2013, , .		6
35	Dopant dynamics and defects evolution in implanted silicon under laser irradiations: A coupled continuum and kinetic Monte Carlo approach. , 2013, , .		0
36	Melt depth and time variations during pulsed laser thermal annealing with one and more pulses. , 2013, , .		1

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37	On the thermo-mechanical modelling of a ball bonding process with ultrasonic softening. , 2013, , .		3
38	Characterization of n-channel MOSFETs: Electrical measurements and simulation analysis. , 2013, , .		4
39	A comprehensive model for the diffusion of boron in silicon in presence of fluorine. Solid-State Electronics, 2013, 87, 4-10.	1.4	3
40	Influence of Ion Implantation in SiC on the Channel Mobility in Lateral N-Channel MOSFETs. ECS Transactions, 2013, 58, 71-80.	0.5	8
41	On the Temperature Dependence of the Hall Factor in n-Channel 4H-SiC MOSFETs. ECS Transactions, 2013, 58, 81-86.	0.5	2
42	On the calculation of Hall factors for the characterization of electronic devices. , 2013, , .		1
43	Anomalous Impurity Segregation and Local Bonding Fluctuation in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">I \rangle$ -Si. Physical Review Letters, 2013, 110, 117801.	7.8	34
44	Precipitation of Antimony Implanted into Silicon. ECS Transactions, 2012, 41, 9-17.	0.5	1
45	Modeling boron profiles in silicon after pulsed excimer laser annealing. AIP Conference Proceedings, 2012, , .	0.4	11
46	Enthalpy based modeling of pulsed excimer laser annealing for process simulation. Applied Surface Science, 2012, 258, 9347-9351.	6.1	9
47	On the influence of RTA and MSA peak temperature variations on Schottky contact resistances of 6-T SRAM cells. Solid-State Electronics, 2011, 65-66, 114-122.	1.4	1
48	Defects formed by pulsed laser annealing: electrical properties and depth profiles in n-type silicon measured by deep level transient spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 956-959.	0.8	0
49	Germanium substrate loss during thermal processing. Microelectronic Engineering, 2011, 88, 499-502.	2.4	28
50	Experiments and simulation of the diffusion and activation of the n-type dopants P, As, and Sb implanted into germanium. Microelectronic Engineering, 2011, 88, 458-461.	2.4	23
51	Simulation of plasma immersion ion implantation. , 2011, , .		2
52	Simulation of focused ion beam etching by coupling a topography simulator and a Monte-Carlo sputtering yield simulator. Microelectronic Engineering, 2010, 87, 1597-1599.	2.4	15
53	Characterization of Arsenic segregation at Si/SiO ₂ interface by 3D atom probe tomography. Thin Solid Films, 2010, 518, 2402-2405.	1.8	17
54	Honeycomb voids due to ion implantation in germanium. Thin Solid Films, 2010, 518, 2323-2325.	1.8	25

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55	Future challenges in CMOS process modeling. Thin Solid Films, 2010, 518, 2478-2484.	1.8	6
56	Comparison between 65nm bulk and PD-SOI MOSFETs: Si/BOX interface effect on point defects and doping profiles. , 2009, , .		0
57	PD-SOI MOSFETs: interface effect on point defects and doping profiles. , 2009, , .		0
58	Modeling of the Diffusion and Activation of Arsenic in Silicon Including Clustering and Precipitation. Solid State Phenomena, 2008, 131-133, 277-282.	0.3	3
59	On a computationally efficient approach to boron-interstitial clustering. Solid-State Electronics, 2008, 52, 1424-1429.	1.4	11
60	Segregation of antimony to Si/SiO ₂ interfaces. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 264-267.	3.5	2
61	Advanced activation trends for boron and arsenic by combinations of single, multiple flash anneals and spike rapid thermal annealing. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 3-13.	3.5	18
62	Experimental investigations and simulation of the deactivation of arsenic during thermal processes after activation by SPER and spike annealing. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 211-215.	3.5	4
63	Total reflection x-ray fluorescence as a sensitive analysis method for the investigation of sputtering processes. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2008, 63, 1382-1386.	2.9	3
64	Detailed arsenic concentration profiles at Si/SiO ₂ interfaces. Journal of Applied Physics, 2008, 104, 043507.	2.5	20
65	Distribution and segregation of arsenic at the SiO ₂ /Si interface. Journal of Applied Physics, 2008, 104, 023518.	2.5	25
66	Advanced annealing strategies for the 32 nm node. , 2008, , .		3
67	Process models for advanced annealing schemes and their use in device simulation. , 2008, , .		0
68	Characterization of the Segregation of Arsenic at the Interface SiO ₂ /Si. Materials Research Society Symposia Proceedings, 2007, 994, 1.	0.1	4
69	Advanced Activation and Deactivation of Arsenic-Implanted Ultra-Shallow Junctions using Flash and Spike + Flash Annealing. , 2007, , .		5
70	On a computationally efficient approach to boron-interstitial clustering. , 2007, , .		1
71	Characterization of the impurity profile at the SiO ₂ /Si interface using a combination of total reflection X-ray fluorescence spectrometry and successive etching of silicon. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 481-484.	2.9	8
72	Experimental and theoretical results of dopant activation by a combination of spike and flash annealing. , 2007, , .		6

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73	Characterization of the pile-up of As at the SiO ₂ /Si interface. , 2007, , .		2
74	Upcoming Challenges for Process Modeling. , 2007, , 81-88.		0
75	Diffusion and Deactivation of As in Si: Combining Atomistic and Continuum Simulation Approaches. , 2007, , 13-16.		0
76	Flash Annealing Technology for USJ: Modeling and Metrology. , 2006, , .		2
77	Pattern Effects with the Mask off.... , 2006, , .		2
78	Diffusion and activation of dopants in silicon and advanced silicon-based materials. Physica Scripta, 2006, T126, 89-96.	2.5	4
79	Process-Induced Diffusion Phenomena in Advanced CMOS Technologies. Defect and Diffusion Forum, 2006, 258-260, 510-521.	0.4	2
80	Advanced activation of ultra-shallow junctions using flash-assisted RTP. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 124-125, 24-31.	3.5	53
81	Ab Initio Identification of the Nitrogen Diffusion Mechanism in Silicon. Physical Review Letters, 2005, 95, 025901.	7.8	28
82	Effect of Oxygen on the Diffusion of Nitrogen Implanted in Silicon. Electrochemical and Solid-State Letters, 2004, 7, G161.	2.2	9
83	Boron-Interstitial Cluster Kinetics: Extraction of Binding Energies from Dedicated Experiments. Materials Research Society Symposia Proceedings, 2004, 810, 322.	0.1	1
84	Current Understanding and Modeling of B Diffusion and Activation Anomalies in Preamorphized Ultra-Shallow Junctions. Materials Research Society Symposia Proceedings, 2004, 810, 154.	0.1	40
85	Intrinsic Point Defects, Impurities, and Their Diffusion in Silicon. Computational Microelectronics, 2004, , .	1.2	224
86	A physically based model for the spatial and temporal evolution of self-interstitial agglomerates in ion-implanted silicon. Journal of Applied Physics, 2004, 96, 4866-4877.	2.5	68
87	On the modeling of transient diffusion and activation of boron during post-implantation annealing. , 2004, , .		2
88	Electrical deactivation and diffusion of boron in preamorphized ultrashallow junctions: interstitial transport and F co-implant control. , 2004, , .		10
89	Intrinsic Point Defects. Computational Microelectronics, 2004, , 77-227.	1.2	16
90	Impurity Diffusion in Silicon. Computational Microelectronics, 2004, , 229-279.	1.2	2

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91	Isovalent Impurities. Computational Microelectronics, 2004, , 281-329.	1.2	3
92	Dopants. Computational Microelectronics, 2004, , 331-467.	1.2	4
93	Transient-diffusion effects. Applied Physics A: Materials Science and Processing, 2003, 76, 1041-1048.	2.3	4
94	Diffusion and electrical activation of indium in silicon. Journal of Applied Physics, 2003, 93, 9773-9782.	2.5	21
95	Indium in silicon: a study on diffusion and electrical activation.. Materials Research Society Symposia Proceedings, 2003, 765, 1.	0.1	1
96	Quantum Mechanical Studies of Boron Clustering in Silicon. , 2003, , 381-392.		0
97	Properties of Vacancies in Silicon Determined from Laser-Annealing Experiments. , 2002, , .		1
98	Current Understanding and Modeling of Boron-Interstitial Clusters. Materials Research Society Symposia Proceedings, 2002, 717, 1.	0.1	29
99	Current status of models for transient phenomena in dopant diffusion and activation. Nuclear Instruments & Methods in Physics Research B, 2002, 186, 256-264.	1.4	12
100	Determination of aluminum diffusion parameters in silicon. Journal of Applied Physics, 2002, 91, 5645-5649.	2.5	41
101	A reduced approach for modeling the influence of nanoclusters and {113} defects on transient enhanced diffusion. Applied Physics Letters, 2001, 79, 2654-2656.	3.3	12
102	Modelling of Intrinsic Aluminum Diffusion for Future Power Devices. , 2000, , .		0
103	Extraction of Vacancy Parameters from Outdiffusion of Zinc from Silicon. Solid State Phenomena, 1999, 69-70, 455-460.	0.3	0
104	On the Influence of Boron-Interstitial Complexes on Transient Enhanced Diffusion. Materials Research Society Symposia Proceedings, 1999, 568, 141.	0.1	4
105	Distortion of sims profiles due to ion beam mixing: Shallow arsenic implants in silicon. Radiation Effects and Defects in Solids, 1998, 145, 213-223.	1.2	4
106	On the «A Symmetrical» Behavior of Transient Enhanced Diffusion in Pre-Amorphised SI Wafers. Materials Research Society Symposia Proceedings, 1998, 532, 67.	0.1	9
107	Recombination of Point Defects via Extended Defects and Its Influence on Dopant Diffusion. , 1998, , 360-363.		0
108	Vacancy-Assisted Oxygen Precipitation Phenomena in Si. Solid State Phenomena, 1997, 57-58, 129-136.	0.3	51

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109	Observation of Vacancy Enhancement during Rapid Thermal Annealing in Nitrogen. Solid State Phenomena, 1997, 57-58, 349-354.	0.3	15
110	Low Energy Implantation and Transient Enhanced Diffusion: Physical Mechanisms and Technology Implications. Materials Research Society Symposia Proceedings, 1997, 469, 265.	0.1	16
111	Influence of RTP on Vacancy Concentrations. Materials Research Society Symposia Proceedings, 1997, 490, 129.	0.1	2
112	Determination of vacancy concentrations in the bulk of silicon wafers by platinum diffusion experiments. Journal of Applied Physics, 1997, 82, 182-191.	2.5	112
113	Distortion of SIMS profiles due to ion beam mixing. Radiation Effects and Defects in Solids, 1997, 141, 37-52.	1.2	11
114	Atomistic evaluation of diffusion theories for the diffusion of dopants in vacancy gradients. Microelectronics Journal, 1995, 26, 261-264.	2.0	0
115	Phosphorus-enhanced diffusion of antimony due to generation of self-interstitials. Journal of Applied Physics, 1995, 78, 1623-1629.	2.5	6
116	Modeling dynamic clustering of arsenic including non-negligible concentrations of arsenic-point defect pairs. IEEE Transactions on Semiconductor Manufacturing, 1995, 8, 414-418.	1.7	9
117	Platinum Diffusion at Low Temperatures. , 1995, , 472-475.		2
118	On modeling of ion implantation at high temperatures. Radiation Effects and Defects in Solids, 1994, 127, 367-384.	1.2	2
119	Practical aspects of ion beam analysis of semiconductor structures. Nuclear Instruments & Methods in Physics Research B, 1994, 85, 356-362.	1.4	4
120	Calculation of the transport matrix for the coupled diffusion of dopants and vacancies. Journal of Applied Physics, 1994, 76, 223-230.	2.5	10
121	Diffusion and activation of arsenic implanted at high temperature in silicon. Nuclear Instruments & Methods in Physics Research B, 1993, 83, 167-172.	1.4	2
122	Response to Comment on: "Direct experimental evidence for diffusion of dopants via pairs with intrinsic point defects". Applied Physics Letters, 1993, 63, 2576-2577.	3.3	0
123	Dopant Migration Caused by Point Defect Gradients. Solid State Phenomena, 1993, 32-33, 259-268.	0.3	1
124	Atomistic Evaluation of Diffusion Theories for the Diffusion of Dopants in Vacancy Gradients. , 1993, , 97-100.		3
125	Direct experimental evidence for diffusion of dopants via pairs with intrinsic point defects. Applied Physics Letters, 1992, 60, 953-955.	3.3	10
126	Thermally activated dopant diffusion in crystalline silicon at 200°C?. Applied Physics Letters, 1992, 60, 1205-1207.	3.3	4

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127	Radiation-enhanced diffusion during high-temperature ion implantation. Nuclear Instruments & Methods in Physics Research B, 1991, 59-60, 499-503.	1.4	32
128	Simulation of silicon semiconductor processing. European Transactions on Telecommunications, 1990, 1, 293-299.	1.2	0
129	A Consistent Pair-diffusion Based Steady-state Model for Phosphorus Diffusion. , 1989, , 297-301.		3
130	Two-dimensional coupled diffusion modeling. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1985, 129, 187-191.	0.9	1
131	Simulation of critical IC fabrication processes using advanced physical and numerical methods. IEEE Transactions on Electron Devices, 1985, 32, 156-167.	3.0	128
132	Simulation of critical IC-fabrication steps. IEEE Transactions on Electron Devices, 1985, 32, 1940-1953.	3.0	23
133	Simulation of Critical IC-Fabrication Steps. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1985, 4, 384-397.	2.7	54
134	Simulation of Critical IC Fabrication Processes Using Advanced Physical and Numerical Methods. IEEE Journal of Solid-State Circuits, 1985, 20, 76-87.	5.4	9
135	Modeling and Simulation of Advanced Annealing Processes. Materials Science Forum, 0, 573-574, 279-293.	0.3	6
136	Review of Stress Effects on Dopant Solubility in Silicon and Silicon-Germanium Layers. Solid State Phenomena, 0, 156-158, 173-180.	0.3	1
137	Deep Energy Levels of Platinum-Hydrogen Complexes in Silicon. Solid State Phenomena, 0, 205-206, 260-264.	0.3	3
138	Verification of Near-Interface Traps Models by Electrical Measurements on 4H-SiC n-Channel Mosfets. Materials Science Forum, 0, 740-742, 533-536.	0.3	6
139	Systematic Analysis of the High- and Low-Field Channel Mobility in Lateral 4H-SiC MOSFETs. Materials Science Forum, 0, 778-780, 583-586.	0.3	4
140	Channeling in 4H-SiC from an Application Point of View. Materials Science Forum, 0, 963, 386-389.	0.3	6
141	Process-Induced Diffusion Phenomena in Advanced CMOS Technologies. Defect and Diffusion Forum, 0, , 510-521.	0.4	1