

Luis A Marqus

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83
papers

1,360
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102
ext. papers

1,502
ext. citations

2.5
avg, IF

3.93
L-index

#	Paper	IF	Citations
83	Ion-beam-induced amorphization and recrystallization in silicon. <i>Journal of Applied Physics</i> , 2004 , 96, 5947-5976	2.5	278
82	Ion-beam processing of silicon at keV energies: A molecular-dynamics study. <i>Physical Review B</i> , 1996 , 54, 16683-16695	3.3	197
81	Stability of defects in crystalline silicon and their role in amorphization. <i>Physical Review B</i> , 2001 , 64,	3.3	90
80	Atomistic modeling of amorphization and recrystallization in silicon. <i>Applied Physics Letters</i> , 2003 , 82, 2038-2040	3.4	61
79	Microscopic description of the irradiation-induced amorphization in silicon. <i>Physical Review Letters</i> , 2003 , 91, 135504	7.4	58
78	Ion beam induced recrystallization of amorphous silicon: A molecular dynamics study. <i>Journal of Applied Physics</i> , 1996 , 80, 6160-6169	2.5	48
77	Molecular dynamics study of the configurational and energetic properties of the silicon self-interstitial. <i>Physical Review B</i> , 2005 , 71,	3.3	46
76	Modeling of damage generation mechanisms in silicon at energies below the displacement threshold. <i>Physical Review B</i> , 2006 , 74,	3.3	32
75	Atomistic analysis of the evolution of boron activation during annealing in crystalline and preamorphized silicon. <i>Journal of Applied Physics</i> , 2005 , 97, 103520	2.5	29
74	Atomistic modeling of deactivation and reactivation mechanisms in high-concentration boron profiles. <i>Applied Physics Letters</i> , 2003 , 83, 4166-4168	3.4	28
73	Front-end process modeling in silicon. <i>European Physical Journal B</i> , 2009 , 72, 323-359	1.2	27
72	Atomistic analysis of defect evolution and transient enhanced diffusion in silicon. <i>Journal of Applied Physics</i> , 2003 , 94, 1013-1018	2.5	24
71	Improved atomistic damage generation model for binary collision simulations. <i>Journal of Applied Physics</i> , 2009 , 105, 083530	2.5	21
70	Characterization of octadecaborane implantation into Si using molecular dynamics. <i>Physical Review B</i> , 2006 , 74,	3.3	21
69	The laser annealing induced phase transition in silicon: a molecular dynamics study. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2004 , 216, 57-61	1.2	19
68	Recrystallization of atomically balanced amorphous pockets in Si: A source of point defects. <i>Physical Review B</i> , 2007 , 76,	3.3	18
67	The curious case of thin-body Ge crystallization. <i>Applied Physics Letters</i> , 2011 , 99, 131910	3.4	17

66	Physical insight into boron activation and redistribution during annealing after low-temperature solid phase epitaxial regrowth. <i>Applied Physics Letters</i> , 2006 , 88, 191917	3.4	17
65	An improved molecular dynamics scheme for ion bombardment simulations. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1995 , 102, 7-11	1.2	17
64	Atomistic modeling of dopant implantation and annealing in Si: damage evolution, dopant diffusion and activation. <i>Computational Materials Science</i> , 2005 , 33, 92-105	3.2	16
63	Molecular dynamics simulations of damage production by thermal spikes in Ge. <i>Journal of Applied Physics</i> , 2012 , 111, 033519	2.5	15
62	Role of silicon interstitials in boron cluster dissolution. <i>Applied Physics Letters</i> , 2005 , 86, 031908	3.4	15
61	Molecular dynamics characterization of as-implanted damage in silicon. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2005 , 124-125, 372-375	3.1	14
60	Elucidating the atomistic mechanisms driving self-diffusion of amorphous Si during annealing. <i>Physical Review B</i> , 2011 , 83,	3.3	13
59	Molecular dynamics simulation of amorphous silicon sputtering by Ar+ ions. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1995 , 102, 301-304	1.2	13
58	Modeling of defects, dopant diffusion and clustering in silicon. <i>Journal of Computational Electronics</i> , 2014 , 13, 40-58	1.8	12
57	Sub-Ångstrom experimental validation of molecular dynamics for predictive modeling of extended defect structures in Si. <i>Physical Review Letters</i> , 2013 , 110, 166102	7.4	12
56	Atomistic analysis of the annealing behavior of amorphous regions in silicon. <i>Journal of Applied Physics</i> , 2007 , 101, 093518	2.5	12
55	Dose effects on amorphous silicon sputtering by argon ions: A molecular dynamics simulation. <i>Journal of Applied Physics</i> , 1997 , 81, 1488-1494	2.5	11
54	Structural transformations from point to extended defects in silicon: A molecular dynamics study. <i>Physical Review B</i> , 2008 , 78,	3.3	11
53	Molecular dynamics simulation of the regrowth of nanometric multigate Si devices. <i>Journal of Applied Physics</i> , 2012 , 111, 034302	2.5	9
52	Molecular dynamics study of the fluence dependence of Si sputtering by 1 keV Ar+ ions. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1996 , 112, 156-159	1.2	9
51	Self-trapping in B-doped amorphous Si: Intrinsic origin of low acceptor efficiency. <i>Physical Review B</i> , 2010 , 81,	3.3	8
50	Physical insight into ultra-shallow junction formation through atomistic modeling. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2006 , 253, 41-45	1.2	8
49	Atomistic simulations in Si processing: Bridging the gap between atoms and experiments. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2005 , 124-125, 72-80	3.1	8

48	Atomistic modeling of defect evolution in Si for amorphizing and subamorphizing implants. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2004 , 114-115, 82-87	3.1	7
47	Molecular dynamics simulation of the early stages of self-interstitial clustering in silicon. <i>Materials Science in Semiconductor Processing</i> , 2016 , 42, 235-238	4.3	6
46	Modeling and experimental characterization of stepped and v-shaped {311} defects in silicon. <i>Journal of Applied Physics</i> , 2014 , 115, 143514	2.5	6
45	Atomistic process modeling based on Kinetic Monte Carlo and Molecular Dynamics for optimization of advanced devices 2009 ,		6
44	Molecular dynamics study of amorphous pocket formation in Si at low energies and its application to improve binary collision models. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007 , 255, 110-113	1.3	6
43	Monte Carlo modeling of amorphization resulting from ion implantation in Si. <i>Computational Materials Science</i> , 2003 , 27, 1-5	3.2	6
42	W and X Photoluminescence Centers in Crystalline Si: Chasing Candidates at Atomic Level Through Multiscale Simulations. <i>Journal of Electronic Materials</i> , 2018 , 47, 5045-5049	1.9	5
41	Ultrafast Generation of Unconventional {001} Loops in Si. <i>Physical Review Letters</i> , 2017 , 119, 205503	7.4	5
40	Atomistic modeling of dopant implantation, diffusion, and activation. <i>Journal of Vacuum Science & Technology B</i> , 2006 , 24, 2432		5
39	Atomistic modeling of impurity ion implantation in ultra-thin-body Si devices 2008 ,		4
38	Molecular dynamics study of damage generation mechanisms in silicon at the low energy regime 2007 ,		4
37	A novel technique for the structural and energetic characterization of lattice defects in the molecular dynamics framework. <i>Computational Materials Science</i> , 2005 , 33, 112-117	3.2	4
36	The role of silicon interstitials in the deactivation and reactivation of high concentration boron profiles. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2004 , 114-115, 193-197	3.1	4
35	The role of the bond defect on silicon amorphization: a molecular dynamics study. <i>Computational Materials Science</i> , 2003 , 27, 6-9	3.2	4
34	Detailed computer simulation of ion implantation processes into crystals. <i>Materials Science and Technology</i> , 1995 , 11, 1191-1193	1.5	4
33	Insights on the atomistic origin of X and W photoluminescence lines in Si from ab initio simulations. <i>Journal Physics D: Applied Physics</i> , 2016 , 49, 075109	3	4
32	A detailed approach for the classification and statistical analysis of irradiation induced defects. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015 , 352, 156-159	1.2	3
31	Improved physical models for advanced silicon device processing. <i>Materials Science in Semiconductor Processing</i> , 2017 , 62, 62-79	4.3	3

30	Simulation of p-n junctions: Present and future challenges for technologies beyond 32 nm. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2010 , 28, C1A1-C1A6	1.3	3
29	Atomistic modeling of ion beam induced amorphization in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2004 , 216, 41-45	1.2	3
28	Dose-rate and temperature dependent statistical damage accumulation model for ion implantation into silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005 , 228, 235-239	1.2	3
27	Amorphous layer depth dependence on implant parameters during Si self-implantation. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2005 , 124-125, 379-382	3.1	3
26	Atomistic modeling of the effects of dose and implant temperature on dopant diffusion and amorphization in Si. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 12-16	1.2	3
25	On the anomalous generation of {0 0 1} loops during laser annealing of ion-implanted silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2019 , 458, 179-183	1.2	3
24	Generation of amorphous Si structurally compatible with experimental samples through the quenching process: A systematic molecular dynamics simulation study. <i>Journal of Non-Crystalline Solids</i> , 2019 , 503-504, 20-27	3.9	3
23	Multiscale modeling of radiation damage and annealing in Si. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007 , 255, 95-100	1.2	2
22	An in situ transmission electron microscope study of the anomalous annealing of spatially isolated disordered zones in silicon. <i>Journal of Physics: Conference Series</i> , 2006 , 26, 284-287	0.3	2
21	Atomistic modeling of ion beam induced amorphization in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005 , 241, 501-505	1.2	2
20	{001} loops in silicon unraveled. <i>Acta Materialia</i> , 2019 , 166, 192-201	8.4	2
19	Atomistic modeling of ion implantation technologies in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015 , 352, 148-151	1.2	1
18	Identification of Extended Defect Atomic Configurations in Silicon Through Transmission Electron Microscopy Image Simulation. <i>Journal of Electronic Materials</i> , 2018 , 47, 4955-4958	1.9	1
17	Modeling of advanced ion implantation technologies in semiconductors 2011 ,		1
16	Simulation study of ion implanted defects associated to luminescence centers in silicon 2011 ,		1
15	Molecular implants and cold implants: Two new strategies for junction formation of future Si devices 2011 ,		1
14	Molecular dynamics simulations of ion bombardment processes. <i>Materials Science and Technology</i> , 1997 , 13, 893-896	1.5	1
13	Physics Mechanisms Involved in the Formation and Recrystallization of Amorphous Regions in Si through Ion Irradiation. <i>Solid State Phenomena</i> , 2008 , 139, 71-76	0.4	1

12	Molecular dynamics study of B18H22 cluster implantation into silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007 , 255, 242-246	1.2	1
11	Atomistic Analysis of the Role of Silicon Interstitials in Boron Cluster Dissolution. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 810, 334		1
10	Atomistic modeling of B activation and deactivation for ultra-shallow junction formation 2003 ,		1
9	Extending defect models for Si processing: The role of energy barriers for defect transformation, entropy and coalescence mechanism. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2022 , 512, 54-59	1.2	1
8	Atomistic simulations of acceptor removal in p-type Si irradiated with neutrons. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2022 , 512, 42-48	1.2	0
7	Atomistic Simulation Techniques in Front-End Processing. <i>Materials Research Society Symposia Proceedings</i> , 2008 , 1070, 1		
6	Atomistic Modeling of Ion Beam Induced Defects in Si: From Point Defects to Continuous Amorphous Layers.. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 810, 422		
5	Atomistic analysis of the ion beam induced defect evolution. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2004 , 216, 100-104	1.2	
4	Atomistic Modeling of Amorphization in Silicon. <i>Materials Research Society Symposia Proceedings</i> , 2001 , 669, 1		
3	Molecular Dynamics Modeling of Octadecaborane Implantation into Si 2007 , 17-20		
2	The Role of Incomplete Interstitial-Vacancy Recombination on Silicon Amorphization 2001 , 26-29		
1	Atomistic modeling of laser-related phenomena 2021 , 79-136		