

Ivan Santos

List of Publications by Year in descending order

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66
papers

376
citations

840119

11
h-index

887659

17
g-index

66
all docs

66
docs citations

66
times ranked

387
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling of damage generation mechanisms in silicon at energies below the displacement threshold. Physical Review B, 2006, 74, .	1.1	34
2	Front-end process modeling in silicon. European Physical Journal B, 2009, 72, 323-359.	0.6	32
3	Characterization of octadecaborane implantation into Si using molecular dynamics. Physical Review B, 2006, 74, .	1.1	24
4	Improved atomistic damage generation model for binary collision simulations. Journal of Applied Physics, 2009, 105, 083530.	1.1	22
5	Molecular dynamics simulations of damage production by thermal spikes in Ge. Journal of Applied Physics, 2012, 111, 033519.	1.1	21
6	Recrystallization of atomically balanced amorphous pockets in Si: A source of point defects. Physical Review B, 2007, 76, .	1.1	18
7	Modeling of defects, dopant diffusion and clustering in silicon. Journal of Computational Electronics, 2014, 13, 40-58.	1.3	18
8	Elucidating the atomistic mechanisms driving self-diffusion of amorphous Si during annealing. Physical Review B, 2011, 83, .	1.1	16
9	Molecular dynamics characterization of as-implanted damage in silicon. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 124-125, 372-375.	1.7	15
10	Atomistic analysis of the annealing behavior of amorphous regions in silicon. Journal of Applied Physics, 2007, 101, 093518.	1.1	14
11	Structural transformations from point to extended defects in silicon: A molecular dynamics study. Physical Review B, 2008, 78, .	1.1	13
12	Insights on the atomistic origin of X and W photoluminescence lines in c-Si from ab initio simulations. Journal Physics D: Applied Physics, 2016, 49, 075109.	1.3	10
13	Physical insight into ultra-shallow junction formation through atomistic modeling. Nuclear Instruments & Methods in Physics Research B, 2006, 253, 41-45.	0.6	9
14	Self-trapping in B-doped amorphous Si: Intrinsic origin of low acceptor efficiency. Physical Review B, 2010, 81, .	1.1	9
15	Molecular dynamics simulation of the regrowth of nanometric multigate Si devices. Journal of Applied Physics, 2012, 111, 034302.	1.1	9
16	Atomistic simulations in Si processing: Bridging the gap between atoms and experiments. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 124-125, 72-80.	1.7	8
17	Atomistic modeling of impurity ion implantation in ultra-thin-body Si devices. , 2008, , .		8
18	Atomistic study of the structural and electronic properties of a-Si:H/c-Si interfaces. Journal of Physics Condensed Matter, 2014, 26, 095001.	0.7	8

#	ARTICLE	IF	CITATIONS
19	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.	1.7	7
20	Atomistic process modeling based on Kinetic Monte Carlo and Molecular Dynamics for optimization of advanced devices. , 2009, , .		7
21	Molecular dynamics simulation of the early stages of self-interstitial clustering in silicon. <i>Materials Science in Semiconductor Processing</i> , 2016, 42, 235-238.	1.9	7
22	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.	1.0	7
23	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.	0.6	6
24	Ultrafast Generation of Unconventional $\{001\}$ Loops in Si. <i>Physical Review Letters</i> , 2017, 119, 205503.	2.9	6
25	Molecular dynamics study of damage generation mechanisms in silicon at the low energy regime. , 2007, , .		5
26	Improved physical models for advanced silicon device processing. <i>Materials Science in Semiconductor Processing</i> , 2017, 62, 62-79.	1.9	5
27	$\{001\}$ loops in silicon unraveled. <i>Acta Materialia</i> , 2019, 166, 192-201.	3.8	4
28	On the anomalous generation of $\{001\}$ loops during laser annealing of ion-implanted silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2019, 458, 179-183.	0.6	4
29	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.	1.5	4
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.	0.6	3
31	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.	0.6	3
32	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.	0.6	3
33	Atomistic modeling of ion beam induced amorphization in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005, 241, 501-505.	0.6	2
34	Multiscale modeling of radiation damage and annealing in Si. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007, 255, 95-100.	0.6	2
35	Molecular dynamics study of B18H22 cluster implantation into silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007, 255, 242-246.	0.6	2
36	Molecular implants and cold implants: Two new strategies for junction formation of future Si devices. , 2011, , .		2

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37	Atomistic analysis of annealing behavior of amorphous regions. , 0, , .		1
38	Atomistic Simulation of Damage Accumulation during Shallow B and As Implant into Si. , 2007, , .		1
39	Physics Mechanisms Involved in the Formation and Recrystallization of Amorphous Regions in Si through Ion Irradiation. Solid State Phenomena, 2008, 139, 71-76.	0.3	1
40	Modeling of advanced ion implantation technologies in semiconductors. , 2011, , .		1
41	Simulation study of ion implanted defects associated to luminescence centers in silicon. , 2011, , .		1
42	Modeling of defect generation and dissolution in ion implanted semiconductors. , 2011, , .		1
43	Atomistic modeling of ion implantation technologies in silicon. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 148-151.	0.6	1
44	Identification of Extended Defect Atomic Configurations in Silicon Through Transmission Electron Microscopy Image Simulation. Journal of Electronic Materials, 2018, 47, 4955-4958.	1.0	1
45	Extending defect models for Si processing: The role of energy barriers for defect transformation, entropy and coalescence mechanism. Nuclear Instruments & Methods in Physics Research B, 2022, 512, 54-59.	0.6	1
46	Atomistic Modeling of Ion Beam Induced Defects in Si: From Point Defects to Continuous Amorphous Layers.. Materials Research Society Symposia Proceedings, 2004, 810, 422.	0.1	0
47	Morphology of as-implanted damage in silicon: a molecular dynamics study. , 0, , .		0
48	Boron redistribution in pre-amorphized Si during thermal annealing. , 0, , .		0
49	Simulation analysis of boron pocket deactivation in NMOS transistors with SPER junctions. , 0, , .		0
50	Study of the amorphous phase of silicon using molecular dynamics simulation techniques. , 0, , .		0
51	Physics based models for process optimization. , 2007, , .		0
52	Molecular Dynamics Simulation of Octadecaborane Implantation into Silicon. , 2007, , .		0
53	Atomistic Simulation Techniques in Front-End Processing. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	0
54	First Principles Study of Boron in Amorphous Silicon. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	0

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55	Atomistic Modeling of Junction Formation: Tools for Physics Understanding and Process Optimization. ECS Transactions, 2009, 25, 411-418.	0.3	0
56	Atomistic simulations of the effect of implant parameters on Si damage. , 2009, , .		0
57	Influence of Si surface on damage generation and recombination. , 2009, , .		0
58	Atomistic process simulation for future generation nanodevices. , 2011, , .		0
59	Preface: 19th International Conference on Ion Implantation Technology. AIP Conference Proceedings, 2012, , .	0.3	0
60	Temperature effect on damage generation mechanisms during ion implantation in Si. A classical molecular dynamics study. AIP Conference Proceedings, 2012, , .	0.3	0
61	Atomistic study of the anisotropic interaction between extended and point defects in crystalline silicon and its influence on Si self-interstitial diffusion. , 2016, , .		0
62	Characterization of amorphous Si generated through classical molecular dynamics simulations. , 2017, , .		0
63	Evaluation of energy barriers for topological transitions of Si self-interstitial clusters by classical molecular dynamics and the kinetic activation-relaxation technique. , 2017, , .		0
64	Modeling SiGe Through Classical Molecular Dynamics Simulations: Chasing an Appropriate Empirical Potential. , 2018, , .		0
65	Atomistic modeling of laser-related phenomena. , 2021, , 79-136.		0
66	Molecular Dynamics Modeling of Octadecaborane Implantation into Si. , 2007, , 17-20.		0