

Pedro LÃ³pez MartÃ­n

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7135822/publications.pdf>

Version: 2024-02-01

80
papers

447
citations

687220

13
h-index

839398

18
g-index

81
all docs

81
docs citations

81
times ranked

398
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomistic analysis of the evolution of boron activation during annealing in crystalline and preamorphized silicon. <i>Journal of Applied Physics</i> , 2005, 97, 103520.	1.1	34
2	Front-end process modeling in silicon. <i>European Physical Journal B</i> , 2009, 72, 323-359.	0.6	32
3	Physical insight into boron activation and redistribution during annealing after low-temperature solid phase epitaxial regrowth. <i>Applied Physics Letters</i> , 2006, 88, 191917.	1.5	22
4	Improved atomistic damage generation model for binary collision simulations. <i>Journal of Applied Physics</i> , 2009, 105, 083530.	1.1	22
5	Atomistic modeling of dopant implantation and annealing in Si: damage evolution, dopant diffusion and activation. <i>Computational Materials Science</i> , 2005, 33, 92-105.	1.4	21
6	Molecular dynamics simulations of damage production by thermal spikes in Ge. <i>Journal of Applied Physics</i> , 2012, 111, 033519.	1.1	21
7	Recrystallization of atomically balanced amorphous pockets in Si: A source of point defects. <i>Physical Review B</i> , 2007, 76, .	1.1	18
8	Kinetic Monte Carlo simulations for transient thermal fields: Computational methodology and application to the submicrosecond laser processes in implanted silicon. <i>Physical Review E</i> , 2012, 86, 036705.	0.8	18
9	Modeling of defects, dopant diffusion and clustering in silicon. <i>Journal of Computational Electronics</i> , 2014, 13, 40-58.	1.3	18
10	Role of silicon interstitials in boron cluster dissolution. <i>Applied Physics Letters</i> , 2005, 86, 031908.	1.5	16
11	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.	1.7	15
12	Atomistic analysis of the annealing behavior of amorphous regions in silicon. <i>Journal of Applied Physics</i> , 2007, 101, 093518.	1.1	14
13	Kinetic Monte Carlo simulations of boron activation in implanted Si under laser thermal annealing. <i>Applied Physics Express</i> , 2014, 7, 021301.	1.1	14
14	Structural transformations from point to extended defects in silicon: A molecular dynamics study. <i>Physical Review B</i> , 2008, 78, .	1.1	13
15	Insights on the atomistic origin of X and W photoluminescence lines in <i>c</i> -Si from <i>ab initio</i> simulations. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 075109.	1.3	10
16	Physical insight into ultra-shallow junction formation through atomistic modeling. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2006, 253, 41-45.	0.6	9
17	Molecular dynamics simulation of the regrowth of nanometric multigate Si devices. <i>Journal of Applied Physics</i> , 2012, 111, 034302.	1.1	9
18	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.	1.7	8

#	ARTICLE	IF	CITATIONS
19	Atomistic modeling of impurity ion implantation in ultra-thin-body Si devices. , 2008, , .		8
20	Atomistic modeling of defect evolution in Si for amorphizing and subamorphizing implants. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2004, 114-115, 82-87.	1.7	7
21	Evolution of boron-interstitial clusters in preamorphized silicon without the contribution of end-of-range defects. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 247-251.	1.7	7
22	Atomistic process modeling based on Kinetic Monte Carlo and Molecular Dynamics for optimization of advanced devices. , 2009, , .		7
23	Molecular dynamics simulation of the early stages of self-interstitial clustering in silicon. Materials Science in Semiconductor Processing, 2016, 42, 235-238.	1.9	7
24	W and X Photoluminescence Centers in Crystalline Si: Chasing Candidates at Atomic Level Through Multiscale Simulations. Journal of Electronic Materials, 2018, 47, 5045-5049.	1.0	7
25	Atomistic modeling of dopant implantation, diffusion, and activation. Journal of Vacuum Science & Technology B, 2006, 24, 2432.	1.3	6
26	Molecular dynamics study of amorphous pocket formation in Si at low energies and its application to improve binary collision models. Nuclear Instruments & Methods in Physics Research B, 2007, 255, 110-113.	0.6	6
27	Ultrafast Generation of Unconventional $\{001\}$ Loops in Si. Physical Review Letters, 2017, 119, 205503.	2.9	6
28	A novel technique for the structural and energetic characterization of lattice defects in the molecular dynamics framework. Computational Materials Science, 2005, 33, 112-117.	1.4	5
29	Molecular dynamics study of damage generation mechanisms in silicon at the low energy regime. , 2007, , .		5
30	Improved physical models for advanced silicon device processing. Materials Science in Semiconductor Processing, 2017, 62, 62-79.	1.9	5
31	The role of silicon interstitials in the deactivation and reactivation of high concentration boron profiles. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2004, 114-115, 193-197.	1.7	4
32	Amorphous layer depth dependence on implant parameters during Si self-implantation. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 124-125, 379-382.	1.7	4
33	$\{001\}$ loops in silicon unraveled. Acta Materialia, 2019, 166, 192-201.	3.8	4
34	On the anomalous generation of $\{001\}$ loops during laser annealing of ion-implanted silicon. Nuclear Instruments & Methods in Physics Research B, 2019, 458, 179-183.	0.6	4
35	Generation of amorphous Si structurally compatible with experimental samples through the quenching process: A systematic molecular dynamics simulation study. Journal of Non-Crystalline Solids, 2019, 503-504, 20-27.	1.5	4
36	Evolution of fluorine and boron profiles during annealing in crystalline Si. Journal of Vacuum Science & Technology B, 2008, 26, 377.	1.3	3

#	ARTICLE	IF	CITATIONS
37	Simulation of p-n junctions: Present and future challenges for technologies beyond 32 nm. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C1A1-C1A6.	0.6	3
38	A detailed approach for the classification and statistical analysis of irradiation induced defects. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 156-159.	0.6	3
39	Atomistic simulations of acceptor removal in p-type Si irradiated with neutrons. Nuclear Instruments & Methods in Physics Research B, 2022, 512, 42-48.	0.6	3
40	Atomistic Analysis of the Role of Silicon Interstitials in Boron Cluster Dissolution. Materials Research Society Symposia Proceedings, 2004, 810, 334.	0.1	2
41	Atomistic modeling of ion beam induced amorphization in silicon. Nuclear Instruments & Methods in Physics Research B, 2005, 241, 501-505.	0.6	2
42	An in situ transmission electron microscope study of the anomalous annealing of spatially isolated disordered zones in silicon. Journal of Physics: Conference Series, 2006, 26, 284-287.	0.3	2
43	Multiscale modeling of radiation damage and annealing in Si. Nuclear Instruments & Methods in Physics Research B, 2007, 255, 95-100.	0.6	2
44	Molecular implants and cold implants: Two new strategies for junction formation of future Si devices. , 2011, , .		2
45	<inf>ON</inf> Degradation in Si Devices in Harsh Radiation Environments: Modeling of Damage-Dopant Interactions. , 2018, , .		2
46	Atomistic analysis of annealing behavior of amorphous regions. , 0, , .		1
47	Atomistic Simulation of Damage Accumulation during Shallow B and As Implant into Si. , 2007, , .		1
48	Atomistic modeling of FnVm complexes in pre-amorphized Si. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2008, 154-155, 207-210.	1.7	1
49	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
50	Si interstitial contribution of F+ implants in crystalline Si. Journal of Applied Physics, 2008, 103, .	1.1	1
51	Atomistic analysis of B clustering and mobility degradation in highly B-doped junctions. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2010, 23, 266-284.	1.2	1
52	Carrier mobility degradation in highly B-doped junctions. , 2009, , .		1
53	Modeling of advanced ion implantation technologies in semiconductors. , 2011, , .		1
54	Simulation study of ion implanted defects associated to luminescence centers in silicon. , 2011, , .		1

#	ARTICLE	IF	CITATIONS
55	Modeling of defect generation and dissolution in ion implanted semiconductors. , 2011, , .		1
56	Atomistic modeling of ion implantation technologies in silicon. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 148-151.	0.6	1
57	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
58	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
59	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
60	Morphology of as-implanted damage in silicon: a molecular dynamics study. , 0, , .		0
61	Boron redistribution in pre-amorphized Si during thermal annealing. , 0, , .		0
62	Simulation analysis of boron pocket deactivation in NMOS transistors with SPER junctions. , 0, , .		0
63	Boron Electrical Activation in SOI Compared to Bulk Si Substrates. , 2007, , .		0
64	Physics based models for process optimization. , 2007, , .		0
65	Molecular Dynamics Simulation of Octadecaborane Implantation into Silicon. , 2007, , .		0
66	F+ implants in crystalline Si: the Si interstitial contribution. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	0
67	Atomistic Simulation Techniques in Front-End Processing. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	0
68	Atomistic Modeling of Junction Formation: Tools for Physics Understanding and Process Optimization. ECS Transactions, 2009, 25, 411-418.	0.3	0
69	Atomistic simulations of the effect of implant parameters on Si damage. , 2009, , .		0
70	Influence of Si surface on damage generation and recombination. , 2009, , .		0
71	Atomistic process simulation for future generation nanodevices. , 2011, , .		0
72	Kinetic Monte Carlo simulation of dopant-defect systems under submicrosecond laser thermal processes. , 2012, , .		0

#	ARTICLE	IF	CITATIONS
73	Temperature effect on damage generation mechanisms during ion implantation in Si. A classical molecular dynamics study. AIP Conference Proceedings, 2012, , .	0.3	0
74	Dopant dynamics and defects evolution in implanted silicon under laser irradiations: A coupled continuum and kinetic Monte Carlo approach. , 2013, , .		0
75	Atomistic study of the anisotropic interaction between extended and point defects in crystalline silicon and its influence on Si self-interstitial diffusion. , 2016, , .		0
76	Characterization of amorphous Si generated through classical molecular dynamics simulations. , 2017, , .		0
77	Evaluation of energy barriers for topological transitions of Si self-interstitial clusters by classical molecular dynamics and the kinetic activation-relaxation technique. , 2017, , .		0
78	Modeling SiGe Through Classical Molecular Dynamics Simulations: Chasing an Appropriate Empirical Potential. , 2018, , .		0
79	Atomistic modeling of laser-related phenomena. , 2021, , 79-136.		0
80	Molecular Dynamics Modeling of Octadecaborane Implantation into Si. , 2007, , 17-20.		0