

Pedro Lopez Martn

List of Publications by Citations

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59
papers

365
citations

12
h-index

16
g-index

81
ext. papers

421
ext. citations

2.4
avg, IF

2.79
L-index

#	Paper	IF	Citations
59	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
58	Front-end process modeling in silicon. <i>European Physical Journal B</i> , 2009 , 72, 323-359	1.2	27
57	Improved atomistic damage generation model for binary collision simulations. <i>Journal of Applied Physics</i> , 2009 , 105, 083530	2.5	21
56	Recrystallization of atomically balanced amorphous pockets in Si: A source of point defects. <i>Physical Review B</i> , 2007 , 76,	3.3	18
55	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
54	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
53	Molecular dynamics simulations of damage production by thermal spikes in Ge. <i>Journal of Applied Physics</i> , 2012 , 111, 033519	2.5	15
52	Role of silicon interstitials in boron cluster dissolution. <i>Applied Physics Letters</i> , 2005 , 86, 031908	3.4	15
51	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
50	Kinetic Monte Carlo simulations of boron activation in implanted Si under laser thermal annealing. <i>Applied Physics Express</i> , 2014 , 7, 021301	2.4	13
49	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, 036703	2.4	13
48	Modeling of defects, dopant diffusion and clustering in silicon. <i>Journal of Computational Electronics</i> , 2014 , 13, 40-58	1.8	12
47	Atomistic analysis of the annealing behavior of amorphous regions in silicon. <i>Journal of Applied Physics</i> , 2007 , 101, 093518	2.5	12
46	Structural transformations from point to extended defects in silicon: A molecular dynamics study. <i>Physical Review B</i> , 2008 , 78,	3.3	11
45	Molecular dynamics simulation of the regrowth of nanometric multigate Si devices. <i>Journal of Applied Physics</i> , 2012 , 111, 034302	2.5	9
44	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
43	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

42	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
41	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
40	Atomistic process modeling based on Kinetic Monte Carlo and Molecular Dynamics for optimization of advanced devices 2009 ,		6
39	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
38	Evolution of boron-interstitial clusters in preamorphized silicon without the contribution of end-of-range defects. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2008 , 154-155, 247-251	3.1	6
37	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
36	Ultrafast Generation of Unconventional {001} Loops in Si. <i>Physical Review Letters</i> , 2017 , 119, 205503	7.4	5
35	Atomistic modeling of dopant implantation, diffusion, and activation. <i>Journal of Vacuum Science & Technology B</i> , 2006 , 24, 2432		5
34	Atomistic modeling of impurity ion implantation in ultra-thin-body Si devices 2008 ,		4
33	Molecular dynamics study of damage generation mechanisms in silicon at the low energy regime 2007 ,		4
32	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
31	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
30	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
29	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
28	Improved physical models for advanced silicon device processing. <i>Materials Science in Semiconductor Processing</i> , 2017 , 62, 62-79	4.3	3
27	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
26	Evolution of fluorine and boron profiles during annealing in crystalline Si. <i>Journal of Vacuum Science & Technology B</i> , 2008 , 26, 377		3
25	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

24	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
23	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
22	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
21	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
20	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
19	{001} loops in silicon unraveled. <i>Acta Materialia</i> , 2019 , 166, 192-201	8.4	2
18	Atomistic modeling of ion implantation technologies in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015 , 352, 148-151	1.2	1
17	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
16	Modeling of advanced ion implantation technologies in semiconductors 2011 ,		1
15	Simulation study of ion implanted defects associated to luminescence centers in silicon 2011 ,		1
14	Molecular implants and cold implants: Two new strategies for junction formation of future Si devices 2011 ,		1
13	Carrier mobility degradation in highly B-doped junctions 2009 ,		1
12	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
11	Si interstitial contribution of F+ implants in crystalline Si. <i>Journal of Applied Physics</i> , 2008 , 103, 093538	2.5	1
10	Atomistic modeling of FnVm complexes in pre-amorphized Si. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2008 , 154-155, 207-210	3.1	1
9	Atomistic Analysis of the Role of Silicon Interstitials in Boron Cluster Dissolution. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 810, 334		1
8	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
7	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

- 6 Atomistic analysis of B clustering and mobility degradation in highly B-doped junctions. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2009**, 23, 266-284 ¹
- 5 F+ implants in crystalline Si: the Si interstitial contribution. *Materials Research Society Symposia Proceedings*, **2008**, 1070, 1
- 4 Atomistic Simulation Techniques in Front-End Processing. *Materials Research Society Symposia Proceedings*, **2008**, 1070, 1
- 3 Atomistic Modeling of Ion Beam Induced Defects in Si: From Point Defects to Continuous Amorphous Layers.. *Materials Research Society Symposia Proceedings*, **2004**, 810, 422
- 2 Molecular Dynamics Modeling of Octadecaborane Implantation into Si **2007**, 17-20
- 1 Atomistic modeling of laser-related phenomena **2021**, 79-136