Maria Aboy

List of Publications by Year in Descending Order

65 papers	562 citations	14 h-index	21 g-index
81 ext. papers	636 ext. citations	2.5 avg, IF	3.02 L-index

#	Paper	IF	Citations
65	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	1.2	1
64	Atomistic simulations of acceptor removal in p-type Si irradiated with neutrons. *Nuclear Instruments & Methods in Physics Research B*, **2022**, 512, 42-48	1.2	0
63	Atomistic modeling of laser-related phenomena **2021**, 79-136		
62	{001} loops in silicon unraveled. *Acta Materialia*, **2019**, 166, 192-201	8.4	2
61	On the anomalous generation of {0 0 1} loops during laser annealing of ion-implanted silicon. *Nuclear Instruments & Methods in Physics Research B*, **2019**, 458, 179-183	1.2	3
60	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	3.9	3
59	Identification of Extended Defect Atomic Configurations in Silicon Through Transmission Electron Microscopy Image Simulation. *Journal of Electronic Materials*, **2018**, 47, 4955-4958	1.9	1
58	W and X Photoluminescence Centers in Crystalline Si: Chasing Candidates at Atomic Level Through Multiscale Simulations. *Journal of Electronic Materials*, **2018**, 47, 5045-5049	1.9	5
57	Ultrafast Generation of Unconventional {001} Loops in Si. *Physical Review Letters*, **2017**, 119, 205503	7.4	5
56	Improved physical models for advanced silicon device processing. *Materials Science in Semiconductor Processing*, **2017**, 62, 62-79	4.3	3
55	Molecular dynamics simulation of the early stages of self-interstitial clustering in silicon. *Materials Science in Semiconductor Processing*, **2016**, 42, 235-238	4.3	6
54	Insights on the atomistic origin of X and W photoluminescence lines inc-Si fromab initiosimulations. *Journal Physics D: Applied Physics*, **2016**, 49, 075109	3	4
53	Atomistic modeling of ion implantation technologies in silicon. *Nuclear Instruments & Methods in Physics Research B*, **2015**, 352, 148-151	1.2	1
52	A detailed approach for the classification and statistical analysis of irradiation induced defects. *Nuclear Instruments & Methods in Physics Research B*, **2015**, 352, 156-159	1.2	3
51	Modeling of defects, dopant diffusion and clustering in silicon. *Journal of Computational Electronics*, **2014**, 13, 40-58	1.8	12
50	Kinetic Monte Carlo simulations of boron activation in implanted Si under laser thermal annealing. *Applied Physics Express*, **2014**, 7, 021301	2.4	13
49	Modeling and experimental characterization of stepped and v-shaped {311} defects in silicon. *Journal of Applied Physics*, **2014**, 115, 143514	2.5	6

48	Molecular dynamics simulations of damage production by thermal spikes in Ge. *Journal of Applied Physics*, **2012**, 111, 033519	2.5	15
47	Modeling of advanced ion implantation technologies in semiconductors **2011**,		1
46	Simulation study of ion implanted defects associated to luminescence centers in silicon **2011**,		1
45	Kinetics of large B clusters in crystalline and preamorphized silicon. *Journal of Applied Physics*, **2011**, 110, 073524	2.5	18
44	Molecular implants and cold implants: Two new strategies for junction formation of future Si devices **2011**,		1
43	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	1.3	3
42	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	
41	Front-end process modeling in silicon. *European Physical Journal B*, **2009**, 72, 323-359	1.2	27
40	Carrier mobility degradation in highly B-doped junctions **2009**,		1
39	Atomistic process modeling based on Kinetic Monte Carlo and Molecular Dynamics for optimization of advanced devices **2009**,		6
38	Structural transformations from point to extended defects in silicon: A molecular dynamics study. *Physical Review B*, **2008**, 78,	3.3	11
37	Atomistic Simulation Techniques in Front-End Processing. *Materials Research Society Symposia Proceedings*, **2008**, 1070, 1		
36	Physics Mechanisms Involved in the Formation and Recrystallization of Amorphous Regions in Si through Ion Irradiation. *Solid State Phenomena*, **2008**, 139, 71-76	0.4	1
35	Atomistic modeling of impurity ion implantation in ultra-thin-body Si devices **2008**,		4
34	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	3.1	1
33	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	3.1	6
32	Recrystallization of atomically balanced amorphous pockets in Si: A source of point defects. *Physical Review B*, **2007**, 76,	3.3	18
31	Multiscale modeling of radiation damage and annealing in Si. *Nuclear Instruments & Methods in Physics Research B*, **2007**, 255, 95-100	1.2	2

30	Boron diffusion and activation in SOI and bulk Si: The role of the buried interface. *Nuclear Instruments & Methods in Physics Research B*, **2007**, 257, 152-156	1.2	3
29	Molecular Dynamics Modeling of Octadecaborane Implantation into Si **2007**, 17-20		
28	Boron pocket and channel deactivation in nMOS transistors with SPER junctions. *IEEE Transactions on Electron Devices*, **2006**, 53, 71-77	2.9	9
27	Atomistic modeling of dopant implantation, diffusion, and activation. *Journal of Vacuum Science & Technology B*, **2006**, 24, 2432		5
26	Physical insight into boron activation and redistribution during annealing after low-temperature solid phase epitaxial regrowth. *Applied Physics Letters*, **2006**, 88, 191917	3.4	17
25	Physical insight into ultra-shallow junction formation through atomistic modeling. *Nuclear Instruments & Methods in Physics Research B*, **2006**, 253, 41-45	1.2	8
24	Atomistic analysis of the evolution of boron activation during annealing in crystalline and preamorphized silicon. *Journal of Applied Physics*, **2005**, 97, 103520	2.5	29
23	A novel technique for the structural and energetic characterization of lattice defects in the molecular dynamics framework. *Computational Materials Science*, **2005**, 33, 112-117	3.2	4
22	Atomistic modeling of dopant implantation and annealing in Si: damage evolution, dopant diffusion and activation. *Computational Materials Science*, **2005**, 33, 92-105	3.2	16
21	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	3.1	14
20	Atomistic modeling of ion beam induced amorphization in silicon. *Nuclear Instruments & Methods in Physics Research B*, **2005**, 241, 501-505	1.2	2
19	Boron activation and redistribution during thermal treatments after solid phase epitaxial regrowth. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2005**, 124-125, 205-209	3.1	9
18	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	3.1	8
17	Role of silicon interstitials in boron cluster dissolution. *Applied Physics Letters*, **2005**, 86, 031908	3.4	15
16	Atomistic Analysis of the Role of Silicon Interstitials in Boron Cluster Dissolution. *Materials Research Society Symposia Proceedings*, **2004**, 810, 334		1
15	Atomistic Modeling of Ion Beam Induced Defects in Si: From Point Defects to Continuous Amorphous Layers.. *Materials Research Society Symposia Proceedings*, **2004**, 810, 422		
14	Atomistic modeling of ion beam induced amorphization in silicon. *Nuclear Instruments & Methods in Physics Research B*, **2004**, 216, 41-45	1.2	3
13	The laser annealing induced phase transition in silicon: a molecular dynamics study. *Nuclear Instruments & Methods in Physics Research B*, **2004**, 216, 57-61	1.2	19

12	Atomistic analysis of the ion beam induced defect evolution. *Nuclear Instruments & Methods in Physics Research B*, **2004**, 216, 100-104	1.2	
11	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	3.1	7
10	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	3.1	4
9	Microscopic description of the irradiation-induced amorphization in silicon. *Physical Review Letters*, **2003**, 91, 135504	7.4	58
8	Atomistic modeling of amorphization and recrystallization in silicon. *Applied Physics Letters*, **2003**, 82, 2038-2040	3.4	61
7	Atomistic analysis of defect evolution and transient enhanced diffusion in silicon. *Journal of Applied Physics*, **2003**, 94, 1013-1018	2.5	24
6	Monte Carlo modeling of amorphization resulting from ion implantation in Si. *Computational Materials Science*, **2003**, 27, 1-5	3.2	6
5	The role of the bond defect on silicon amorphization: a molecular dynamics study. *Computational Materials Science*, **2003**, 27, 6-9	3.2	4
4	Atomistic modeling of B activation and deactivation for ultra-shallow junction formation **2003**,		1
3	Modeling of Dopant and Defect Interactions in Si Process Simulators. *Defect and Diffusion Forum*, **2003**, 221-223, 31-40	0.7	2
2	Atomistic modeling of deactivation and reactivation mechanisms in high-concentration boron profiles. *Applied Physics Letters*, **2003**, 83, 4166-4168	3.4	28
1	Liquid□liquid Equilibria for Acetic Anhydride + Selected Alkanes. *Journal of Chemical & Engineering Data*, **2002**, 47, 950-953	2.8	21