

Olivier Politano

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59
papers

939
citations

18
h-index

29
g-index

60
ext. papers

1,071
ext. citations

3.4
avg, IF

4.4
L-index

#	Paper	IF	Citations
59	Structure evolution and reaction mechanism in the Ni/Al reactive multilayer nanofoils. <i>Acta Materialia</i> , 2014 , 66, 86-96	8.4	70
58	Energetics of hydrogen impurities in aluminum and their effect on mechanical properties. <i>Physical Review B</i> , 2002 , 65,	3.3	68
57	Reactive molecular dynamics of the initial oxidation stages of Ni111 in pure water: effect of an applied electric field. <i>Journal of Physical Chemistry A</i> , 2012 , 116, 11796-805	2.8	63
56	Molecular dynamics simulations of the nano-scale room-temperature oxidation of aluminum single crystals. <i>Surface Science</i> , 2005 , 579, 47-57	1.8	60
55	Combustion in reactive multilayer Ni/Al nanofoils: Experiments and molecular dynamic simulation. <i>Combustion and Flame</i> , 2016 , 166, 158-169	5.3	55
54	Nanoscale oxide growth on Al single crystals at low temperatures: Variable charge molecular dynamics simulations. <i>Physical Review B</i> , 2006 , 73,	3.3	49
53	Molecular dynamics simulations of nanometric metallic multilayers: Reactivity of the Ni-Al system. <i>Physical Review B</i> , 2011 , 84,	3.3	46
52	Variable-charge method applied to study coupled grain boundary migration in the presence of oxygen. <i>Acta Materialia</i> , 2009 , 57, 1988-2001	8.4	42
51	Microstructure development during NiAl intermetallic synthesis in reactive NiAl nanolayers: Numerical investigations vs. TEM observations. <i>Surface and Coatings Technology</i> , 2013 , 215, 485-492	4.4	36
50	Dissolution process at solid/liquid interface in nanometric metallic multilayers: Molecular dynamics simulations versus diffusion modeling. <i>Acta Materialia</i> , 2015 , 99, 363-372	8.4	35
49	Diffusion of oxygen in nickel: A variable charge molecular dynamics study. <i>Solid State Communications</i> , 2010 , 150, 439-442	1.6	34
48	Effects of planetary ball milling on AlCoCrFeNi high entropy alloys prepared by Spark Plasma Sintering: Experiments and molecular dynamics study. <i>Journal of Alloys and Compounds</i> , 2020 , 820, 153448	5.7	26
47	Modeling self-sustaining waves of exothermic dissolution in nanometric Ni-Al multilayers. <i>Acta Materialia</i> , 2016 , 120, 189-204	8.4	22
46	Electrochemical properties of crystallized dilithium squarate: insight from dispersion-corrected density functional theory. <i>Physical Chemistry Chemical Physics</i> , 2012 , 14, 11398-412	3.6	22
45	SHS in Ni/Al Nanofoils: A Review of Experiments and Molecular Dynamics Simulations. <i>Advanced Engineering Materials</i> , 2018 , 20, 1800091	3.5	22
44	Alloying propagation in nanometric Ni/Al multilayers: A molecular dynamics study. <i>Journal of Applied Physics</i> , 2017 , 121, 055304	2.5	21
43	Oxidation of nanocrystalline aluminum by variable charge molecular dynamics. <i>Journal of Physics and Chemistry of Solids</i> , 2010 , 71, 119-124	3.9	20

42	Comparative study of embedded-atom methods applied to the reactivity in the NiAl system. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2017 , 25, 064002	2	18
41	A local chemical potential approach within the variable charge method formalism. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2008 , 16, 025006	2	18
40	Molecular dynamics simulations of self-propagating reactions in NiAl multilayer nanofoils. <i>Journal of Alloys and Compounds</i> , 2015 , 652, 25-29	5.7	17
39	Combustion synthesis of TiC-based ceramic-metal composites with high entropy alloy binder. <i>Journal of the European Ceramic Society</i> , 2020 , 40, 2527-2532	6	16
38	Epitaxial growth of the intermetallic compound NiAl on low-index Ni surfaces in Ni/Al reactive multilayer nanofoils. <i>Acta Materialia</i> , 2018 , 148, 133-146	8.4	14
37	Grain size, stress and surface roughness. <i>Surface and Interface Analysis</i> , 2008 , 40, 518-521	1.5	13
36	An empirical method to determine the free surface energy of solids at different deformations and temperature regimes: An application to Al. <i>Surface Science</i> , 2005 , 586, 15-24	1.8	13
35	A 3D mesoscopic approach for discrete dislocation dynamics. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 309-310, 261-264	5.3	12
34	Electronic structure and energy decomposition analyses as a tool to interpret the redox potential ranking of naphtho-, biphenyl- and biphenylene-quinone isomers. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 26651-26660	3.6	11
33	Microstructure evolution and self-propagating reactions in Ni-Al nanofoils: An atomic-scale description. <i>Journal of Alloys and Compounds</i> , 2017 , 708, 989-998	5.7	10
32	Self-propagating waves of crystallization in metallic glasses. <i>Applied Physics Letters</i> , 2017 , 111, 093105	3.4	9
31	A variable charge molecular dynamics study of the initial stage of nickel oxidation. <i>Applied Surface Science</i> , 2010 , 256, 5968-5972	6.7	8
30	High-Entropy-Alloy Binder for TiC-Based Cemented Carbide by SHS Method. <i>International Journal of Self-Propagating High-Temperature Synthesis</i> , 2019 , 28, 196-198	0.7	7
29	Numerical and theoretical considerations on the surface energy for pure solids under strain. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004 , 387-389, 749-752	5.3	7
28	A Reactive Force Field Molecular Dynamics Simulation Study of Corrosion of Nickel. <i>Defect and Diffusion Forum</i> , 2012 , 323-325, 139-145	0.7	6
27	Formation of surface roughness on nanocrystalline aluminium samples under straining by molecular dynamics studies. <i>Philosophical Magazine</i> , 2007 , 87, 129-145	1.6	6
26	Explosive crystallization in amorphous CuTi thin films: a molecular dynamics study. <i>Journal of Non-Crystalline Solids</i> , 2019 , 505, 202-210	3.9	6
25	On the dynamics of dislocation patterning. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1997 , 234-236, 397-400	5.3	5

24	An empirical model for free surface energy of strained solids at different temperature regimes. <i>Applied Surface Science</i> , 2006 , 252, 5384-5386	6.7	5
23	Reactivity of the Ti/Al system: Experimental study and molecular dynamics simulations. <i>Journal of Applied Physics</i> , 2020 , 127, 145304	2.5	5
22	Molecular dynamics study of high-pressure alumina polymorphs with a tight-binding variable-charge model. <i>Computational Materials Science</i> , 2016 , 111, 181-189	3.2	4
21	ReaxFF molecular dynamics simulation study of nanoelectrode lithography oxidation process on silicon (100) surface. <i>Applied Surface Science</i> , 2019 , 496, 143679	6.7	4
20	Theoretical and numerical considerations on the surface energy for deformed isotropic nanocrystals. <i>Philosophical Magazine</i> , 2004 , 84, 3397-3409	1.6	4
19	Substrate orientation effects on nanoelectrode lithography: ReaxFF molecular dynamics and experimental study. <i>Journal Physics D: Applied Physics</i> , 2020 , 53, 295108	3	3
18	Dynamical features of forest interactions. <i>Computational Materials Science</i> , 2000 , 17, 343-346	3.2	3
17	Reaction front propagation in nanocrystalline Ni/Al composites: A molecular dynamics study. <i>Journal of Applied Physics</i> , 2020 , 128, 215301	2.5	3
16	Thermal Stability of Medium- and High-Entropy Alloys of 3d-Transition Metals. <i>Journal of Phase Equilibria and Diffusion</i> , 2021 , 42, 720	1	3
15	Dissolution at Interfaces in Layered Solid-Liquid Thin Films: A Key Step in Joining Process. <i>Journal of Materials Engineering and Performance</i> , 2016 , 25, 3270-3274	1.6	2
14	Mechanical activation of metallic powders in planetary ball mills: multi-scale modeling and experimental observation. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 558, 012034	0.4	2
13	Numerical Simulations on the Growth of Thin Oxide Films on Aluminum Substrates. <i>Defect and Diffusion Forum</i> , 2010 , 297-301, 954-959	0.7	2
12	Numerical Determination of Intrinsic Diffusion Coefficient of Aluminide Coatings on Metals. <i>Defect and Diffusion Forum</i> , 2009 , 289-292, 269-276	0.7	2
11	Reactivity of Ni/Al nanocomposites prepared by mechanical activation: A molecular dynamics study. <i>Journal of Applied Physics</i> , 2021 , 129, 065301	2.5	2
10	Effects of mechanical activation on chemical homogeneity and contamination level in dual-phase AlCoCrFeNi high entropy alloy. <i>Materials Chemistry and Physics</i> , 2021 , 272, 125000	4.4	2
9	Numerical Studies of the Diffusion Processes and First Step Oxidation in Nickel-Oxygen Systems by Variable Charge Molecular Dynamics. <i>Defect and Diffusion Forum</i> , 2010 , 297-301, 513-518	0.7	1
8	Quenched molecular dynamics studies on the extraction energy of aluminum atoms. <i>Surface and Interface Analysis</i> , 2008 , 40, 320-322	1.5	1
7	Determination of the Stress Distribution at the Interface Metal-Oxide: Numerical and Theoretical Considerations. <i>Defect and Diffusion Forum</i> , 2005 , 237-240, 145-150	0.7	1

6	Mechanical activation of metallic powders and reactivity of activated nanocomposites: a molecular dynamics approach. <i>Applied Physics A: Materials Science and Processing</i> , 2021 , 127, 1	2.6	1
5	Molecular Dynamics Studies in Nanojoining: Self-Propagating Reaction in Ni/Al Nanocomposites. <i>Journal of Materials Engineering and Performance</i> , 2021 , 30, 1-7	1.6	1
4	Mechanical alloying in the Co-Fe-Ni powder mixture: Experimental study and molecular dynamics simulation. <i>Powder Technology</i> , 2022 , 399, 117187	5.2	1
3	Molecular Dynamics Simulation of Self-Propagating Thermal Waves in Amorphous Cu50Ti50 Films and Thin Cu/Ti Sandwiches. <i>International Journal of Self-Propagating High-Temperature Synthesis</i> , 2018 , 27, 114-116	0.7	
2	Numerical Determination of Intrinsic Diffusion in Fe-Cr-Al Systems. <i>Defect and Diffusion Forum</i> , 2010 , 297-301, 948-953	0.7	
1	Study of the Reactive Dynamics of Nanometric Metallic Multilayers Using Molecular Dynamics : The Al-Ni System. <i>Defect and Diffusion Forum</i> , 2012 , 323-325, 89-94	0.7	