Paulo Branicio

List of Publications by Citations

89 papers	2,274 citations	25 h-index	45 g-index
96 ext. papers	2,619 ext. citations	4.1 avg, IF	5.23 L-index

#	Paper	IF	Citations
89	Structural characterization of deformed crystals by analysis of common atomic neighborhood. *Computer Physics Communications*, **2007**, 177, 518-523	4.2	443
88	Large deformation and amorphization of Ni nanowires under uniaxial strain: A molecular dynamics study. *Physical Review B*, **2000**, 62, 16950-16955	3.3	173
87	A transition from localized shear banding to homogeneous superplastic flow in nanoglass. *Applied Physics Letters*, **2013**, 103, 211905	3.4	93
86	Brittle dynamic fracture of crystalline cubic silicon carbide (3C-SiC) via molecular dynamics simulation. *Journal of Applied Physics*, **2005**, 98, 103524	2.5	79
85	Strong and ductile nanolaminate composites combining metallic glasses and nanoglasses. *International Journal of Plasticity*, **2017**, 90, 231-241	7.6	61
84	On the notch sensitivity of CuZr metallic glasses. *Applied Physics Letters*, **2013**, 103, 081903	3.4	60
83	Shock-induced structural phase transition, plasticity, and brittle cracks in aluminum nitride ceramic. *Physical Review Letters*, **2006**, 96, 065502	7.4	60
82	Short- and intermediate-range structural correlations in amorphous silicon carbide: A molecular dynamics study. *Physical Review B*, **2004**, 70,	3.3	59
81	Effect of strain on the stacking fault energy of copper: A first-principles study. *Physical Review B*, **2013**, 88,	3.3	55
80	Composition and grain size effects on the structural and mechanical properties of CuZr nanoglasses. *Journal of Applied Physics*, **2014**, 116, 043522	2.5	55
79	Large-scale molecular dynamics simulations of wear in diamond-like carbon at the nanoscale. *Applied Physics Letters*, **2013**, 103, 073118	3.4	55
78	Atomistic origin of size effects in fatigue behavior of metallic glasses. *Journal of the Mechanics and Physics of Solids*, **2017**, 104, 84-95	5	52
77	Atomistic damage mechanisms during hypervelocity projectile impact on AlN: A large-scale parallel molecular dynamics simulation study. *Journal of the Mechanics and Physics of Solids*, **2008**, 56, 1955-1988	5	45
76	Local stress calculation in simulations of multicomponent systems. *Journal of Computational Physics* , **2009**, 228, 8467-8479	4.1	43
75	A Critical Review on Metallic Glasses as Structural Materials for Cardiovascular Stent Applications. *Journal of Functional Biomaterials*, **2018**, 9,	4.8	41
74	Shock loading on AlN ceramics: A large scale molecular dynamics study. *International Journal of Plasticity*, **2013**, 51, 122-131	7.6	41
73	Suppression of Shear Banding and Transition to Necking and Homogeneous Flow in Nanoglass Nanopillars. *Scientific Reports*, **2015**, 5, 15611	4.9	41

72	A modified Tersoff potential for pure and hydrogenated diamond-like carbon. *Computational Materials Science*, **2013**, 67, 146-150	3.2	37
71	Deformation mechanisms and damage in alumina under hypervelocity impact loading. *Journal of Applied Physics*, **2008**, 103, 083508	2.5	36
70	Molecular dynamics simulation of fast dislocations in copper. *Acta Materialia*, **2009**, 57, 1843-1855	8.4	35
69	Shock-induced spall in single and nanocrystalline SiC. *Acta Materialia*, **2017**, 140, 274-289	8.4	34
68	Strong and superplastic nanoglass. *Nanoscale*, **2015**, 7, 17404-9	7.7	31
67	Accelerating dislocations to transonic and supersonic speeds in anisotropic metals. *Applied Physics Letters*, **2008**, 92, 191909	3.4	31
66	Fullerenes generated from porous structures. *Physical Chemistry Chemical Physics*, **2014**, 16, 25515-22	3.6	28
65	Molecular dynamics study of structural, mechanical, and vibrational properties of crystalline and amorphous Ga1InxAs alloys. *Journal of Applied Physics*, **2003**, 94, 3840-3848	2.5	27
64	Effects of grain size and temperature on mechanical and failure properties of ultrananocrystalline diamond. *Diamond and Related Materials*, **2011**, 20, 1303-1309	3.5	25
63	Adsorbed Conformations of PCE Superplasticizers in Cement Pore Solution Unraveled by Molecular Dynamics Simulations. *Scientific Reports*, **2017**, 7, 16599	4.9	24
62	Dynamic behaviour of silicon carbide nanowires under high and extreme strain rates: a molecular dynamics study. *Journal Physics D: Applied Physics*, **2011**, 44, 055405	3	24
61	Structural, mechanical, and vibrational properties of Ga1InxAs alloys: A molecular dynamics study. *Applied Physics Letters*, **2003**, 82, 1057-1059	3.4	24
60	Nanoductility induced brittle fracture in shocked high performance ceramics. *Applied Physics Letters* , **2010**, 97, 111903	3.4	23
59	Surface roughness imparts tensile ductility to nanoscale metallic glasses. *Extreme Mechanics Letters* , **2015**, 5, 88-95	3.9	22
58	Compromising high strength and ductility in nanoglassmetallic glass nanolaminates. *RSC Advances*, **2016**, 6, 13548-13553	3.7	22
57	Mechanical properties of nanoporous metallic glasses: Insights from large-scale atomic simulations. *International Journal of Plasticity*, **2020**, 127, 102657	7.6	22
56	Shock-induced microstructural response of mono- and nanocrystalline SiC ceramics. *Journal of Applied Physics*, **2018**, 123, 145902	2.5	19
55	Applying a machine learning interatomic potential to unravel the effects of local lattice distortion on the elastic properties of multi-principal element alloys. *Journal of Alloys and Compounds*, **2019**, 803, 1054-1062	5.7	18

54	Atomistic dynamics simulation to solve conformation of model PCE superplasticisers in water and cement pore solution. *Advances in Cement Research*, **2017**, 29, 418-428	1.8	18
53	Superplastic nanocrystalline ceramics at room temperature and high strain rates. *Scripta Materialia*, **2013**, 69, 525-528	5.6	16
52	Properties on the edge: graphene edge energies, edge stresses, edge warping, and the Wulff shape of graphene flakes. *Modelling and Simulation in Materials Science and Engineering*, **2011**, 19, 054002	2	16
51	Plane shock loading on mono- and nano-crystalline silicon carbide. *Applied Physics Letters*, **2018**, 112, 111909	3.4	15
50	Molecular Dynamics Simulations of Plane Shock Loading in SiC. *Procedia Engineering*, **2014**, 75, 150-153		15
49	. *IEEE Transactions on Electron Devices*, **2000**, 47, 1804-1810	2.9	15
48	Molecular dynamics simulations on the frictional behavior of a perfluoropolyether film sandwiched between diamond-like-carbon coatings. *Langmuir*, **2014**, 30, 1573-9	4	14
47	Collision-free spatial hash functions for structural analysis of billion-vertex chemical bond networks. *Computer Physics Communications*, **2006**, 175, 339-347	4.2	14
46	Interaction potential for indium phosphide: a molecular dynamics and first-principles study of the elastic constants, generalized stacking fault and surface energies. *Journal of Physics Condensed Matter*, **2009**, 21, 095002	1.8	13
45	High-pressure phases of InP: An ab initio and molecular-dynamics study. *Applied Physics Letters*, **2006**, 88, 161919	3.4	12
44	Atomistic insights into the nanosecond long amorphization and crystallization cycle of nanoscale Ge2Sb2Te5: An ab initio molecular dynamics study. *Physical Review Materials*, **2018**, 2,	3.2	12
43	Time-temperature-transformation and continuous-heating-transformation diagrams of GeSb2Te4 from nanosecond-long ab initio molecular dynamics simulations. *Acta Materialia*, **2016**, 121, 257-265	8.4	12
42	A dynamic pathway for the alkaline earth oxides B1 to B2 transformation. *Europhysics Letters*, **2006**, 76, 836-841	1.6	11
41	Unravelling the anomalous electrical and optical phase-change characteristics in FeTe. *Acta Materialia*, **2016**, 112, 67-76	8.4	11
40	Structural phase transformations in InP under pressure: A molecular-dynamics study. *Physica Status Solidi (B): Basic Research*, **2007**, 244, 239-243	1.3	9
39	Melting and orientational order of the screened Wigner crystal on helium films. *Physical Review B*, **2001**, 64,	3.3	9
38	Gradient microstructure induced shear band constraint, delocalization, and delayed failure in CuZr nanoglasses. *International Journal of Plasticity*, **2020**, 134, 102845	7.6	9
37	Atomistic Molecular Dynamics Study of Structural and Thermomechanical Properties of Zdol Lubricants on Hydrogenated Diamond-Like Carbon. *IEEE Transactions on Magnetics*, **2013**, 49, 5227-5235	2	8

36	Atomistic Mechanisms in Silicon Carbide Nanostructures. *Journal of Computational and Theoretical Nanoscience*, **2012**, 9, 1870-1880	0.3	8
35	Tuning the Mechanical Properties of Shape Memory Metallic Glass Composites with Brick and Mortar Designs. *Scripta Materialia*, **2020**, 186, 69-73	5.6	8
34	Bicontinuous nanoporous design induced homogenization of strain localization in metallic glasses. *Scripta Materialia*, **2021**, 192, 67-72	5.6	7
33	Ultra-low friction of graphene/C60/graphene coatings for realistic rough surfaces. *Carbon*, **2019**, 152, 727-737	10.4	6
32	Efficient generation of non-cubic stochastic periodic bicontinuous nanoporous structures. *Computational Materials Science*, **2019**, 169, 109101	3.2	6
31	Rate dependence and anisotropy of SiC response to ramp and wave-free quasi-isentropic compression. *International Journal of Plasticity*, **2021**, 138, 102923	7.6	6
30	Nanoglass-based balloon expandable stents. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2020**, 108, 73-79	3.5	6
29	Local structure of Ge2Sb2Te5 during crystallization under pressure. *Applied Physics Letters*, **2018**, 112, 151901	3.4	5
28	Correlation between optical absorption redshift and carrier density in phase change materials. *Journal of Applied Physics*, **2013**, 114, 123504	2.5	5
27	Vibrational properties of InP under pressure: a molecular-dynamics study. *Physica Status Solidi (B): Basic Research*, **2007**, 244, 331-335	1.3	5
26	Photoexcitation Induced Ultrafast Nonthermal Amorphization in SbTe. *Journal of Physical Chemistry Letters*, **2020**, 11, 10242-10249	6.4	5
25	Differences in Sb2Te3 growth by pulsed laser and sputter deposition. *Acta Materialia*, **2020**, 200, 811-820	8.4	4
24	Memristive Device Characteristics Engineering by Controlling the Crystallinity of Switching Layer Materials. *ACS Applied Electronic Materials*, **2020**, 2, 1529-1537	4	3
23	Planar fault energies of copper at large strain: A density functional theory study. *Journal of Applied Physics*, **2014**, 116, 103512	2.5	3
22	Synthesis of metallic glass nanoparticles by inert gas condensation. *Physical Review Materials*, **2020**, 4,	3.2	3
21	Atomistic insights on the pressure-induced multi-layer graphene to diamond-like structure transformation. *Carbon*, **2021**, 175, 243-253	10.4	3
20	Tuning the mechanical properties of nanoglass-metallic glass composites with brick and mortar designs. *Scripta Materialia*, **2021**, 194, 113639	5.6	3
19	Hydrogen Bond Preserving Stress Release Mechanism Is Key to the Resilience of Aramid Fibers. *Journal of Physical Chemistry B*, **2019**, 123, 9719-9723	3.4	2

18	Thermal Conductivity in Nanoscale Lennard-Jones Systems: Size Effects in the Fluid and Solid Phases. *Defect and Diffusion Forum*, **2006**, 258-260, 310-315	0.7	2
17	Structural phase transition and amorphization in hexagonal SiC subjected to dynamic loading. *Mechanics of Materials*, **2022**, 164, 104139	3.3	2
16	Intrinsic and extrinsic effects on the fracture toughness of ductile metallic glasses. *Mechanics of Materials*, **2021**, 162, 104066	3.3	2
15	Elastic interaction of hydrogen atoms on graphene: A multiscale approach from first principles to continuum elasticity. *Physical Review B*, **2016**, 94,	3.3	1
14	Transition of deformation mechanisms in nanotwinned single crystalline SiC. *Philosophical Magazine* , **2019**, 99, 2636-2660	1.6	1
13	Atomistic Modeling of Shock Loading in SiC Ceramics. *Materials Research Society Symposia Proceedings*, **2013**, 1535, 6501		1
12	The amorphization and crystallization of Ge2Sb2Te5: an ab initio molecular dynamics study. *Materials Research Society Symposia Proceedings*, **2012**, 1431, 14		1
11	Engineering materials properties in codimension > 0. *Journal of Materials Research*, **2012**, 27, 619-626	2.5	1
10	Classical Molecular Dynamics Simulation of Structural and Dynamical Properties of II-VI and III-V Semiconductors. *Defect and Diffusion Forum*, **2006**, 258-260, 522-530	0.7	1
9	Ultralow friction of graphene-coated silica nanoparticle film. *Computational Materials Science*, **2022**, 204, 111184	3.2	1
8	Atomistic modeling of physical vapor deposition on complex topology substrates. *Computational Materials Science*, **2022**, 203, 111111	3.2	0
7	Excess free volume and structural properties of inert gas condensation synthesized nanoparticles based CuZr nanoglasses. *Scientific Reports*, **2021**, 11, 19246	4.9	0
6	Defect reversibility regulates dynamic tensile strength in silicon carbide at high strain rates. *Scripta Materialia*, **2022**, 213, 114593	5.6	0
5	Pore Size Dependence of Permeability in Bicontinuous Nanoporous Media.. *Langmuir*, **2021**, 37, 14866-14877		0
4	Material Properties in Codimension > 0: graphene edge properties. *Materials Research Society Symposia Proceedings*, **2010**, 1258, 1		
3	Accelerating copper dissociated dislocations to transonic and supersonic speeds. *Materials Research Society Symposia Proceedings*, **2008**, 1137, 100801		
2	Molecular-dynamics studies of charge complexes in liquid helium. *Computational and Theoretical Chemistry*, **1999**, 464, 87-93		
1	High pressure shear induced microstructural evolution in nanocrystalline aluminum. *Computational Materials Science*, **2022**, 203, 111105	3.2	