Izabela Szlufarska

List of Publications by Year
in descending order

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79 papers	3,388 citations	186265 28 h-index	144013 57 g-index
80 all docs	80 docs citations	80 times ranked	3792 citing authors

#	Article	IF	Citations
1	Molecular dynamic characteristic temperatures for predicting metallic glass forming ability. Computational Materials Science, 2022, 201, 110877.	3.0	4
2	Reconfiguration of Amorphous Complex Oxides: A Route to a Broad Range of Assembly Phenomena, Hybrid Materials, and Novel Functionalities. Small, 2022, 18, e2105424.	10.0	4
3	Machine Learning Prediction of the Critical Cooling Rate for Metallic Glasses from Expanded Datasets and Elemental Features. Chemistry of Materials, 2022, 34, 2945-2954.	6.7	9
4	Chemical Creep and Its Effect on Contact Aging. , 2022, 4, 1368-1373.		6
5	Defect recovery processes in Cr-B binary and Cr-Al-B MAB phases: structure-dependent radiation tolerance. Acta Materialia, 2022, 235, 118099.	7.9	10
6	Structural signatures for thermodynamic stability in vitreous silica: Insight from machine learning and molecular dynamics simulations. Physical Review Materials, 2021, 5, .	2.4	7
7	Microstructural Evolution of Ultra-Fine Grained (UFGs) Aluminum in Tribological Contacts. Minerals, Metals and Materials Series, 2021, , 257-262.	0.4	0
8	Physical Origin of the Mechanochemical Coupling at Interfaces. Physical Review Letters, 2021, 126, 076001.	7.8	17
9	Rheology and structure of suspensions of spherocylinders via Brownian dynamics simulations. Journal of Rheology, 2021, 65, 273-288.	2.6	3
10	Deciphering water-solid reactions during hydrothermal corrosion of SiC. Acta Materialia, 2021, 209, 116803.	7.9	10
11	Effect of growth twins on strength and microstructural evolution of nanocrystalline aluminum. Journal of Materials Science, 2021, 56, 14587-14597.	3.7	2
12	Enhancing the phase stability of ceramics under radiation via multilayer engineering. Science Advances, 2021, 7, .	10.3	6
13	Exploration of characteristic temperature contributions to metallic glass forming ability. Computational Materials Science, 2021, 196, 110494.	3.0	6
14	Defect chemistry of Cr-B binary and Cr-Al-B MAB phases: Effects of covalently bonded B networks. Physical Review Materials, 2021, 5, .	2.4	5
15	Modified band alignment method to obtain hybrid functional accuracy from standard DFT: Application to defects in highly mismatched III-V:Bi alloys. Physical Review Materials, 2021, 5, .	2.4	2
16	Wear-induced microstructural evolution of nanocrystalline aluminum and the role of zirconium dopants. Acta Materialia, 2020, 200, 432-441.	7.9	20
17	Effects of point defects on oxidation of 3Câ€“SiC. Journal of Nuclear Materials, 2020, 538, 152308.	2.7	10
18	High toughness carbon-nanotube-reinforced ceramics via ion-beam engineering of interfaces. Carbon, 2020, 163, 169-177.	10.3	19

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19	Linear Aging Behavior at Short Timescales in Nanoscale Contacts. Physical Review Letters, 2020, 124, 026801.	7.8	12
20	An Unexpected Role of H During SiC Corrosion in Water. Journal of Physical Chemistry C, 2020, 124, 9394-9400.	3.1	10
21	Radiation-induced segregation in a ceramic. Nature Materials, 2020, 19, 992-998.	27.5	47
22	Plasticity without dislocations in a polycrystalline intermetallic. Nature Communications, 2019, 10, 3587.	12.8	38
23	Bioinspired Synthesis of Quasi-Two-Dimensional Monocrystalline Oxides. Chemistry of Materials, 2019, 31, 9040-9048.	6.7	21
24	Massive Vacancy Concentration Yields Strong Room-Temperature Ferromagnetism in Two-Dimensional ZnO. Nano Letters, 2019, 19, 7085-7092.	9.1	31
25	Memory Distance for Interfacial Chemical Bond-Induced Friction at the Nanoscale. ACS Nano, 2019, 13, 7425-7434.	14.6	12
26	Sensitivity of SiC Grain Boundaries to Oxidation. Journal of Physical Chemistry C, 2019, 123, 11546-11554.	3.1	14
27	Corrosion of Si, C, and SiC in molten salt. Corrosion Science, 2019, 146, 1-9.	6.6	24
28	In situ Transmission Electron Microscopy of Room-temperature Plastic Deformation and Recovery in Thin 3C-SiC. Microscopy and Microanalysis, 2018, 24, 1834-1835.	0.4	0
29	Mechanical Properties of Structure-Tunable, Vapor-Deposited TPD Glass. Journal of Physical Chemistry C, 2018, 122, 27775-27781.	3.1	10
30	Chemical aging of large-scale randomly rough frictional contacts. Physical Review E, 2018, 98, 023001.	2.1	12
31	Small-Angle Twist Grain Boundaries as Sinks for Point Defects. Scientific Reports, 2018, 8, 3736.	3.3	14
32	Multiphysics model of chemical aging in frictional contacts. Physical Review Materials, 2018, 2, .	2.4	12
33	Load and Time Dependence of Interfacial Chemical Bond-Induced Friction at the Nanoscale. Physical Review Letters, 2017, 118, 076103.	7.8	48
34	The Multiple Roles of Small-Angle Tilt Grain Boundaries in Annihilating Radiation Damage in SiC. Scientific Reports, 2017, 7, 42358.	3.3	15
35	Size Dependence of Nanoscale Wear of Silicon Carbide. ACS Applied Materials & Interfaces, 2017, 9, 1929-1940.	8.0	19
36	Morphology and mechanical properties of nanocrystalline Cu/Ag alloy. Journal of Materials Science, 2017, 52, 4555-4567.	3.7	33

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37	Cs diffusion in SiC high-energy grain boundaries. Journal of Applied Physics, 2017, 122, 105901.	2.5	3
38	Unit Cell Level Thickness Control of Single-Crystalline Zinc Oxide Nanosheets Enabled by Electrical Double-Layer Confinement. Langmuir, 2017, 33, 7708-7714.	3.5	24
39	Radiation-induced mobility of small defect clusters in covalent materials. Physical Review B, 2016, 94, .	3.2	10
40	First-principles studies on molecular beam epitaxy growth of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>GaA</mml:mi><mml:msub><mml:mi mathvariant="normal">s</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo><mml:mi>x</mml:mi></mml:mrow></r mathvariant="normal">B</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mi>x</mml:mi></mml:msub></mml:mrow></mml:math>. Physical Review B, 2015, 92, .	3.2	11
41	Toward Demystifying the Mohs Hardness Scale. Journal of the American Ceramic Society, 2015, 98, 2681-2688.	3.8	8
42	Atomic Resolution Imaging of Black Spot Defects in Ion Irradiated Silicon Carbide. Microscopy and Microanalysis, 2015, 21, 1337-1338.	0.4	1
43	Effect of interfaces on the nearby Brownian motion. Nature Communications, 2015, 6, 8558.	12.8	39
44	Investigation of the Role of Polysaccharide in the Dolomite Growth at Low Temperature by Using Atomistic Simulations. Langmuir, 2015, 31, 10435-10442.	3.5	29
45	Effects of Interfacial Bonding on Friction and Wear at Silica/Silica Interfaces. Tribology Letters, 2014, 56, 481-490.	2.6	57
46	Z-contrast imaging and ab initio study on "d" superstructure in sedimentary dolomite. American Mineralogist, 2014, 99, 1413-1419.	1.9	11
47	Green-Kubo relation for friction at liquid-solid interfaces. Physical Review E, 2014, 89, 032119.	2.1	60
48	Temperature and irradiation species dependence of radiation response of nanocrystalline silicon carbide. Journal of Materials Research, 2014, 29, 2871-2880.	2.6	30
49	Plasticityâ€Controlled Friction and Wear in Nanocrystalline <scp><scp>SiC</scp></scp>. Journal of the American Ceramic Society, 2014, 97, 1194-1201.	3.8	21
50	Crystal structures of laihunite and intermediate phases between laihunite-1M and fayalite: Z-contrast imaging and ab initio study. American Mineralogist, 2014, 99, 881-889.	1.9	17
51	Morphology of Amorphous Pockets in SiC Irradiated with 1 MeV Kr Ions. Microscopy and Microanalysis, 2014, 20, 1830-1831.	0.4	0
52	Experimental and ab initio study of enhanced resistance to amorphization of nanocrystalline silicon carbide under electron irradiation. Journal of Nuclear Materials, 2014, 445, 181-189.	2.7	44
53	Effect of Grain Boundary Stresses on Sink Strength. Materials Research Letters, 2014, 2, 100-106.	8.7	51
54	Structures and stabilities of small carbon interstitial clusters in cubic silicon carbide. Acta Materialia, 2014, 62, 162-172.	7.9	22

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55	Picometre-precision analysis of scanning transmission electron microscopy images of platinum nanocatalysts. Nature Communications, 2014, 5, 4155.	12.8	225
56	High-Resolution Scanning Transmission Electron Microscopy Study of Black Spot Defects in Ion Irradiated Silicon Carbide. Microscopy and Microanalysis, 2014, 20, 1824-1825.	0.4	3
57	Energy barriers for point-defect reactions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>3</mml:mn><mml:mi>C</mml:mi></mml:mrow></mml:math>-SiC. Physical Review B, 2013, 88, .	3.2	50
58	Dislocation controlled wear in single crystal silicon carbide. Journal of Materials Science, 2013, 48, 1593-1603.	3.7	46
59	Radiation interaction with tilt grain boundaries in Î²-SiC. Journal of Applied Physics, 2012, 111, .	2.5	20
60	Carbon tri-interstitial defect: A model for the D<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>II</mml:mi></mml:msub></mml:math>center. Physical Review B, 2012, 86, .	3.2	33
61	Friction model for single-asperity elastic-plastic contacts. Physical Review B, 2012, 86, .	3.2	28
62	Radiation effects in SiC for nuclear structural applications. Current Opinion in Solid State and Materials Science, 2012, 16, 143-152.	11.5	318
63	First-principles study of Cs and Sr sorption on carbon structures. Journal of Applied Physics, 2012, 111, .	2.5	10
64	Chemical Origins of Frictional Aging. Physical Review Letters, 2012, 109, 186102.	7.8	82
65	Role of recombination kinetics and grain size in radiation-induced amorphization. Physical Review B, 2012, 86, .	3.2	24
66	Analytical Model for Plowing Friction at Nanoscale. Tribology Letters, 2012, 45, 417-426.	2.6	27
67	Self-nanoscaling of the soft magnetic phase in bulk SmCo/Fe nanocomposite magnets. Journal of Materials Science, 2011, 46, 6065-6074.	3.7	49
68	Ag diffusion in cubic silicon carbide. Journal of Nuclear Materials, 2011, 408, 257-271.	2.7	91
69	Ab initio based rate theory model of radiation induced amorphization in Î²-SiC. Journal of Nuclear Materials, 2011, 414, 431-439.	2.7	44
70	Effects of grain size and grain boundaries on defect production in nanocrystalline 3Câ€“SiC. Acta Materialia, 2010, 58, 2843-2853.	7.9	84
71	Roughness picture of friction in dry nanoscale contacts. Physical Review B, 2010, 81, .	3.2	79
72	Energetics and structure of âŸ¨0â€‰0â€‰1âŸ© tilt grain boundaries in SiC. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 075009.	2.0	36

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73	Origin of the isotope effect on solid friction. Physical Review B, 2009, 80, .	3.2	24
74	Friction laws at the nanoscale. Nature, 2009, 457, 1116-1119.	27.8	783
75	Simultaneous enhancement of toughness, ductility, and strength of nanocrystalline ceramics at high strain-rates. Applied Physics Letters, 2007, 90, 181926.	3.3	47
76	A Molecular Dynamics Simulation of High Strain-rate Deformation in Nanocrystalline Silicon Carbide. Materials Research Society Symposia Proceedings, 2007, 1021, 1.	0.1	0
77	Multimillion-atom nanoindentation simulation of crystalline silicon carbide: Orientation dependence and anisotropic pileup. Journal of Applied Physics, 2007, 102, .	2.5	62
78	Atomistic mechanisms of amorphization during nanoindentation of SiC: A molecular dynamics study. Physical Review B, 2005, 71, .	3.2	62
79	A Crossover in the Mechanical Response of Nanocrystalline Ceramics. Science, 2005, 309, 911-914.	12.6	209