

Christine Borchers

List of Publications by Year in descending order

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62
papers

2,891
citations

201674

27
h-index

168389

53
g-index

62
all docs

62
docs citations

62
times ranked

2236
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomic-scale mechanisms of deformation-induced cementite decomposition in pearlite. <i>Acta Materialia</i> , 2011, 59, 3965-3977.	7.9	269
2	Segregation Stabilizes Nanocrystalline Bulk Steel with Near Theoretical Strength. <i>Physical Review Letters</i> , 2014, 113, 106104.	7.8	224
3	Microstructural and macroscopic properties of cold sprayed copper coatings. <i>Journal of Applied Physics</i> , 2003, 93, 10064-10070.	2.5	213
4	Evolution of strength and microstructure during annealing of heavily cold-drawn 6.3 GPa hypereutectoid pearlitic steel wire. <i>Acta Materialia</i> , 2012, 60, 4005-4016.	7.9	187
5	Microstructures and key properties of cold-sprayed and thermally sprayed copper coatings. <i>Surface and Coatings Technology</i> , 2006, 200, 4947-4960.	4.8	185
6	Microstructural bonding features of cold sprayed face centered cubic metals. <i>Journal of Applied Physics</i> , 2004, 96, 4288-4292.	2.5	136
7	Cold-drawn pearlitic steel wires. <i>Progress in Materials Science</i> , 2016, 82, 405-444.	32.8	113
8	Catalyst-Nanostructure Interaction in the Growth of 1-D ZnO Nanostructures. <i>Journal of Physical Chemistry B</i> , 2006, 110, 1656-1660.	2.6	101
9	Formation of persistent dislocation loops by ultra-high strain-rate deformation during cold spraying. <i>Acta Materialia</i> , 2005, 53, 2991-3000.	7.9	98
10	Long range stress fields and cavitation along a shear band in a metallic glass: The local origin of fracture. <i>Acta Materialia</i> , 2015, 98, 94-102.	7.9	93
11	Effect of Hydrogen on the Mechanical Properties of Stainless Steels. <i>Advanced Engineering Materials</i> , 2008, 10, 11-23.	3.5	78
12	Partially amorphous nanocomposite obtained from heavily deformed pearlitic steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 502, 131-138.	5.6	75
13	Formation of Cold-Sprayed Ceramic Titanium Dioxide Layers on Metal Surfaces. <i>Journal of Thermal Spray Technology</i> , 2011, 20, 292-298.	3.1	71
14	Nanocrystalline Fe-C alloys produced by ball milling of iron and graphite. <i>Acta Materialia</i> , 2013, 61, 3172-3185.	7.9	70
15	Atom probe tomography characterization of heavily cold drawn pearlitic steel wire. <i>Ultramicroscopy</i> , 2011, 111, 628-632.	1.9	65
16	Hydrogen diffusivities as a measure of relative dislocation densities in palladium and increase of the density by plastic deformation in the presence of dissolved hydrogen. <i>Acta Materialia</i> , 2015, 82, 266-274.	7.9	56
17	High strain rate deformation microstructures of stainless steel 316L by cold spraying and explosive powder compaction. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 90, 517-526.	2.3	55
18	Increase in dislocation density in cold-deformed Pd using H as a temporary alloying addition. <i>Scripta Materialia</i> , 2013, 68, 743-746.	5.2	54

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19	Microstructure and mechanical properties of medium-carbon steel bonded on low-carbon steel by explosive welding. <i>Materials and Design</i> , 2016, 89, 369-376.	7.0	50
20	Application of cold drawn lamellar microstructure for developing ultra-high strength wires. <i>Transactions of Nonferrous Metals Society of China</i> , 2007, 17, 1129-1138.	4.2	49
21	High resolution microstructure analysis of the decomposition of Cu ₉₀ Co ₁₀ alloys. <i>Acta Materialia</i> , 1996, 44, 2567-2579.	7.9	43
22	Microstructure development during rapid solidification of highly supersaturated Cu-Co alloys. <i>Acta Metallurgica Et Materialia</i> , 1995, 43, 3467-3475.	1.8	42
23	Hydrogen absorption behaviour in nanometer sized palladium samples stabilised in soft and hard matrix. <i>Journal of Alloys and Compounds</i> , 2005, 404-406, 523-528.	5.5	35
24	Defects in Carbon-Rich Ferrite of Cold-Drawn Pearlitic Steel Wires. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013, 44, 3882-3889.	2.2	34
25	Nanocrystalline steel obtained by mechanical alloying of iron and graphite subsequently compacted by high-pressure torsion. <i>Acta Materialia</i> , 2015, 97, 207-215.	7.9	34
26	On the formation of vacancies in α -ferrite of a heavily cold-drawn pearlitic steel wire. <i>Scripta Materialia</i> , 2011, 64, 390-393.	5.2	32
27	Catastrophic nucleation during decomposition of Cu-0.9at.% Ti. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1999, 79, 537-547.	0.6	29
28	Catalyst-nanostructure interaction and growth of ZnS nanobelts. <i>Nanotechnology</i> , 2006, 17, 1067-1071.	2.6	27
29	Atomic scale investigation of redistribution of alloying elements in pearlitic steel wires upon cold-drawing and annealing. <i>Ultramicroscopy</i> , 2013, 132, 233-238.	1.9	27
30	Influence of hydrogen on the deformation morphology of vanadium (100) micropillars in the α -phase of the vanadium-hydrogen system. <i>Scripta Materialia</i> , 2013, 68, 71-74.	5.2	27
31	High-Pressure Torsion for Synthesis of High-Entropy Alloys. <i>Metals</i> , 2021, 11, 1263.	2.3	22
32	Defect Recovery in Severely Deformed Ferrite Lamellae During Annealing and Its Impact on the Softening of Cold-Drawn Pearlitic Steel Wires. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 726-738.	2.2	20
33	Carbon-defect interaction during recovery and recrystallization of heavily deformed pearlitic steel wires. <i>Philosophical Magazine Letters</i> , 2010, 90, 581-588.	1.2	19
34	Determination of low-temperature interfacial energies from a pair interaction model. <i>Acta Materialia</i> , 2005, 53, 3695-3701.	7.9	18
35	Vacancy-carbon complexes in bcc iron: Correlation between carbon content, vacancy concentration and diffusion coefficient. <i>Scripta Materialia</i> , 2013, 69, 690-693.	5.2	18
36	Hardening effects in plastically deformed Pd with the addition of H. <i>Scripta Materialia</i> , 2015, 98, 48-51.	5.2	18

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37	Influence of supersaturated carbon on the diffusion of Ni in ferrite determined by atom probe tomography. <i>Scripta Materialia</i> , 2013, 69, 424-427.	5.2	16
38	Strain-Induced Phase Transformation of MCrAlY. <i>Advanced Engineering Materials</i> , 2015, 17, 723-731.	3.5	16
39	Influence of Graphite Addition on the Reactivity of Ti Powder with H ₂ under Ball Milling. <i>Journal of Physical Chemistry B</i> , 2006, 110, 196-204.	2.6	14
40	Cu-CeO ₂ nanocomposites: mechanochemical synthesis, physico-chemical properties, CO-PROX activity. <i>Journal of Nanoparticle Research</i> , 2016, 18, 1.	1.9	14
41	Interfacial wetting and percolation threshold in ultrathin Ni/C multilayer films. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2000, 80, 1669-1679.	0.6	13
42	The Gibbs-Thomson effect in magnetron-sputtered austenitic stainless steel films. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 106211.	1.8	13
43	Stimulating Effect of Graphite Admixture on Hydrogen Sorption-Desorption Properties of Mechanically Activated Titanium Powder. <i>Journal of Physical Chemistry B</i> , 2005, 109, 10341-10347.	2.6	12
44	Effect of annealing on point defect population in cold-drawn pearlitic steel wires. <i>Scripta Materialia</i> , 2014, 86, 17-19.	5.2	12
45	Effect of h-BN Additive on Hydrogen Sorption by Ti under Mechanical Treatment in H ₂ /He Flow. <i>Journal of Physical Chemistry C</i> , 2008, 112, 5869-5879.	3.1	10
46	Influence of hydrogen loading on the microstructure of niobium-palladium multilayers. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2000, 80, 543-553.	0.6	9
47	Ultrathin metal/light material multilayer films: Thermodynamics and microstructure. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2002, 82, 1195-1205.	0.6	9
48	Deformation Microstructure of Cold Gas Sprayed Coatings. <i>Materials Research Society Symposia Proceedings</i> , 2001, 673, 1.	0.1	8
49	Ti/C and Ti/h-BN nanocomposites: Comparison of hydrogen sorption/desorption properties. <i>Chemical Physics Letters</i> , 2008, 465, 82-85.	2.6	8
50	Size and Structure of Palladium Clusters Determined by XRD and HREM. <i>Zeitschrift Fur Physikalische Chemie</i> , 2009, 223, 169-182.	2.8	8
51	Mechanical Activation of Structural and Chemical Transformations in a Zr-C-H System in Two Stages. <i>Journal of Physical Chemistry B</i> , 2002, 106, 1843-1848.	2.6	6
52	Interfacial energy induced microstructure of thin magnetic iron/gold multilayer films. <i>Journal of Materials Science</i> , 2002, 37, 731-736.	3.7	6
53	Influence of element distribution on mechanical properties in the bonding zone of explosively welded steels. <i>Scripta Materialia</i> , 2021, 199, 113860.	5.2	6
54	Optical activation of implanted impurities in ZnS nanowires. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2006, 24, 1356-1359.	2.1	5

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55	Arsenic contamination of coarse-grained and nanostructured nitinol surfaces induced by chemical treatment in hydrofluoric acid. , 2012, 100B, 1812-1816.		5
56	Synthesis of Small Carbon Nanoparticles in a Microwave Plasma Flow Reactor. Zeitschrift Fur Physikalische Chemie, 2013, 227, 357-370.	2.8	5
57	Size distributions of nanoscopic holes in Ti/h-BN and Ti/B nanocomposites. Journal of Applied Physics, 2010, 107, 043509.	2.5	4
58	Prediction of spinodal wavelength in continuously cooled metallic liquid. Annalen Der Physik, 2009, 18, 4-12.	2.4	3
59	Hydrogen absorption in 3.1 nanometre sized palladium samples: does structure matter?. International Journal of Materials Research, 2008, 99, 528-534.	0.3	2
60	Decomposition of Unstable Supersaturated Cu ₉₀ Co ₁₀ Solid Solutions. Materials Research Society Symposia Proceedings, 1995, 400, 125.	0.1	0
61	Boron Enhanced Synthesis of Ti-hydride Nanoparticles by Milling Ti/B in Hydrogen Flow. Current Nanoscience, 2011, 7, 757-769.	1.2	0
62	Inhibition of Grain Coarsening in Nanocrystalline Fe-C Alloys by Interaction between Carbon and Grain Boundaries. Advanced Materials Research, 0, 904, 184-188.	0.3	0