Maxime Dupraz

List of Publications by Year
in descending order

77 papers	6,447 citations	117625 34 h-index	74163 75 g-index
78 all docs	78 docs citations	78 times ranked	4402 citing authors

#	Article	IF	Citations
1	Stacking fault energies and slip in nanocrystalline metals. Nature Materials, 2004, 3, 399-403.	27.5	881
2	POLYCRYSTALLINE MATERIALS: Grain Boundaries and Dislocations. Science, 2002, 296, 66-67.	12.6	592
3	Nanocrystalline electrodeposited Ni: microstructure and tensile properties. Acta Materialia, 2002, 50, 3957-3970.	7.9	506
4	Grain-boundary sliding in nanocrystalline fcc metals. Physical Review B, 2001, 64, .	3.2	498
5	Nucleation and propagation of dislocations in nanocrystalline fcc metals. Acta Materialia, 2006, 54, 1975-1983.	7.9	345
6	Deformation in nanocrystalline metals. Materials Today, 2006, 9, 24-31.	14.2	338
7	Grain-boundary structures in polycrystalline metals at the nanoscale. Physical Review B, 2000, 62, 831-838.	3.2	333
8	Microscopic description of plasticity in computer generated metallic nanophase samples: a comparison between Cu and Ni. Acta Materialia, 1999, 47, 3117-3126.	7.9	291
9	On non-equilibrium grain boundaries and their effect on thermal and mechanical behaviour: a molecular dynamics computer simulation. Acta Materialia, 2002, 50, 3927-3939.	7.9	207
10	Interaction between dislocations and grain boundaries under an indenter â€“ a molecular dynamics simulation. Acta Materialia, 2004, 52, 2251-2258.	7.9	166
11	Grain boundary migration during room temperature deformation of nanocrystalline Ni. Scripta Materialia, 2006, 55, 695-698.	5.2	148
12	The influence of twins on the mechanical properties of nc-Al. Acta Materialia, 2004, 52, 2259-2268.	7.9	147
13	Dislocations emitted from nanocrystalline grain boundaries: nucleation and splitting distance. Acta Materialia, 2004, 52, 5863-5870.	7.9	146
14	A molecular dynamics study of polycrystalline fcc metals at the nanoscale: grain boundary structure and its influence on plastic deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 309-310, 440-444.	5.6	124
15	Grain coarsening during compression of bulk nanocrystalline nickel and copper. Scripta Materialia, 2008, 58, 61-64.	5.2	115
16	Atomistic simulations as guidance to experiments. Scripta Materialia, 2003, 49, 629-635.	5.2	108
17	Band structure of gold from many-body perturbation theory. Physical Review B, 2012, 86, .	3.2	91
18	Atomistic simulation of dislocation emission in nanosized grain boundaries. Philosophical Magazine, 2003, 83, 3569-3575.	1.6	90

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19	Operando X-ray diffraction during laser 3D printing. Materials Today, 2020, 34, 30-40.	14.2	70
20	Strain rates in molecular dynamics simulations of nanocrystalline metals. Philosophical Magazine, 2009, 89, 3465-3475.	1.6	64
21	Coupled grain boundary motion in a nanocrystalline grain boundary network. Scripta Materialia, 2011, 65, 151-154.	5.2	64
22	Dislocation Cross-Slip in Nanocrystalline fcc Metals. Physical Review Letters, 2008, 100, 235501.	7.8	62
23	Inversion Domain Boundaries in GaN Wires Revealed by Coherent Bragg Imaging. ACS Nano, 2015, 9, 9210-9216.	14.6	62
24	Atomistic Simulations of Dislocations in Confined Volumes. MRS Bulletin, 2009, 34, 184-189.	3.5	50
25	Dynamic recovery in nanocrystalline Ni. Acta Materialia, 2015, 91, 91-100.	7.9	49
26	On the initial microstructure of metallic micropillars. Scripta Materialia, 2008, 59, 471-474.	5.2	46
27	Origin of Anomalous Slip in Tungsten. Physical Review Letters, 2014, 113, 025501.	7.8	45
28	Load path change on superelastic NiTi alloys: In situ synchrotron XRD and SEM DIC. Acta Materialia, 2018, 144, 874-883.	7.9	42
29	In situ room temperature tensile deformation of a 1% CrMoV bainitic steel using synchrotron and neutron diffraction. Acta Materialia, 2011, 59, 4448-4457.	7.9	40
30	In situ characterization of a high work hardening Ti-6Al-4V prepared by electron beam melting. Acta Materialia, 2019, 179, 224-236.	7.9	39
31	Signature of dislocations and stacking faults of face-centred cubic nanocrystals in coherent X-ray diffraction patterns: a numerical study. Journal of Applied Crystallography, 2015, 48, 621-644.	4.5	38
32	In situ Laue diffraction of metallic micropillars. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 524, 40-45.	5.6	37
33	3D Imaging of a Dislocation Loop at the Onset of Plasticity in an Indented Nanocrystal. Nano Letters, 2017, 17, 6696-6701.	9.1	37
34	The role of grain size and the presence of low and high angle grain boundaries in the deformation mechanism of nanophase Ni: A molecular dynamics computer simulation. Scripta Materialia, 1999, 12, 323-326.	0.5	36
35	Effects of focused ion beam milling and pre-straining on the microstructure of directionally solidified molybdenum pillars: A Laue diffraction analysis. Scripta Materialia, 2010, 62, 746-749.	5.2	34
36	Scanning force microscope forin situnanofocused X-ray diffraction studies. Journal of Synchrotron Radiation, 2014, 21, 1128-1133.	2.4	33

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37	SIA activity during irradiation of nanocrystalline Ni. Journal of Nuclear Materials, 2003, 323, 213-219.	2.7	32
38	Creep in nanocrystalline Ni during X-ray diffraction. Scripta Materialia, 2009, 60, 297-300.	5.2	30
39	Stacking fault tetrahedra formation in the neighbourhood of grain boundaries. Nuclear Instruments & Methods in Physics Research B, 2003, 202, 51-55.	1.4	29
40	The non-degenerate core structure of a Â½âŸ¨111âŸ© screw dislocation in bcc transition metals modelled using Finnisâ€“Sinclair potentials: The necessary and sufficient conditions. Philosophical Magazine, 2009, 89, 3235-3243.	1.6	27
41	In situ characterization of work hardening and springback in grade 2 Î±-titanium under tensile load. Acta Materialia, 2019, 181, 87-98.	7.9	26
42	Atomistic Simulations of Mechanics of Nanostructures. MRS Bulletin, 2009, 34, 160-166.	3.5	24
43	A Miniaturized Biaxial Deformation Rig for in Situ Mechanical Testing. Experimental Mechanics, 2017, 57, 569-580.	2.0	24
44	Dislocation interactions at reduced strain rates in atomistic simulations of nanocrystalline Al. Acta Materialia, 2018, 144, 68-79.	7.9	21
45	A new Feâ€“He pair potential. Journal of Nuclear Materials, 2010, 400, 240-244.	2.7	20
46	Large scale 3-dimensional atomistic simulations of screw dislocations interacting with coherent twin boundaries in Al, Cu and Ni under uniaxial and multiaxial loading conditions. Acta Materialia, 2019, 174, 16-28.	7.9	20
47	A High Resolution Digital Image Correlation Study under Multiaxial Loading. Experimental Mechanics, 2019, 59, 309-317.	2.0	19
48	Deformation behavior of nano-porous polycrystalline silver. Part II: Simulations. Acta Materialia, 2017, 131, 564-573.	7.9	15
49	Deciphering the interactions between single arm dislocation sources and coherent twin boundary in nickel bi-crystal. Nature Communications, 2021, 12, 962.	12.8	15
50	Intergranular Strain Evolution During Biaxial Loading: A Multiscale FE-FFT Approach. Jom, 2017, 69, 839-847.	1.9	14
51	Slip in directionally solidified Mo-alloy micropillars â€“ Part I: Nominally dislocation-free pillars. Acta Materialia, 2012, 60, 4604-4613.	7.9	13
52	Verification of selective laser melting heat source models with operando X-ray diffraction data. Additive Manufacturing, 2021, 37, 101747.	3.0	13
53	Characterisation of the microstructure of nanophase Ni: A molecular dynamics simulation study. Scripta Materialia, 1999, 12, 629-632.	0.5	12
54	Elastic properties determined from in situ X-ray diffraction. Acta Materialia, 2006, 54, 1851-1856.	7.9	11

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55	Influence of thermo-mechanical history on the ordering kinetics in 18 carat Au alloys. Acta Materialia, 2020, 191, 186-197.	7.9	11
56	Phase Studies of Additively Manufactured Near Beta Titanium Alloy-Ti55511. Materials, 2020, 13, 1723.	2.9	11
57	Imaging the facet surface strain state of supported multi-faceted Pt nanoparticles during reaction. Nature Communications, 2022, 13, .	12.8	11
58	Enhanced precipitate growth at reduced temperatures during chemical ordering in deformed red gold alloys. Scripta Materialia, 2019, 170, 129-133.	5.2	9
59	A convolutional neural network for defect classification in Bragg coherent X-ray diffraction. Npj Computational Materials, 2021, 7, .	8.7	9
60	Mapping Inversion Domain Boundaries along Single GaN Wires with Bragg Coherent X-ray Imaging. ACS Nano, 2020, 14, 10305-10312.	14.6	8
61	In situ diffraction profile analysis during tensile deformation motivated by molecular dynamics. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 400-401, 329-333.	5.6	6
62	Slip in directionally solidified Mo-alloy micropillarsâ€”Part II: Pillars containing defects. Acta Materialia, 2012, 60, 4614-4622.	7.9	6
63	Continuous scanning for Bragg coherent X-ray imaging. Scientific Reports, 2020, 10, 12760.	3.3	6
64	POLDI: Materials Science and Engineering Instrument at SINQ. Neutron News, 2009, 20, 17-19.	0.2	5
65	Athermal critical stresses for dislocation propagation in nanocrystalline aluminium. Philosophical Magazine, 2010, 90, 977-989.	1.6	4
66	Unconventional deformation mechanism in nanocrystalline metals?. International Journal of Materials Research, 2022, 94, 1106-1110.	0.3	4
67	Positron lifetime calculations for stacking fault tetrahedra in copper. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3514-3517.	0.8	3
68	Vibrational properties of grain boundaries in nanocrystalline Ni using second moment potentials. Philosophical Magazine, 2009, 89, 3511-3529.	1.6	3
69	Response surface for screw dislocation: Twin boundary interactions in FCC metals. Acta Materialia, 2020, 195, 681-689.	7.9	3
70	Microscopic Description of Plasticity in Computer Generated Metallic Nanophase Samples. Materials Research Society Symposia Proceedings, 1998, 538, 401.	0.1	2
71	Bragg coherent imaging of nanoprecipitates: role of superstructure reflections. Journal of Applied Crystallography, 2020, 53, 1353-1369.	4.5	2
72	Effect of helium as process gas on laser powder bed fusion of Ti-6Al-4V studied with operando diffraction and radiography. European Journal of Materials, 2022, 2, 422-435.	2.6	2

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73	Molecular Dynamic Computer Simulation of Elastic and Plastic Behavior of Nanophase Ni. Materials Research Society Symposia Proceedings, 1996, 457, 193.	0.1	1
74	Structural and Mechanical Properties of Nanophase Ni: A Molecular-Dynamics Study of the Influence of Grain-Boundary Structure on Elastic and Plastic Behavior. Materials Research Society Symposia Proceedings, 1997, 492, 357.	0.1	1
75	Gwaihir: Jupyter Notebook graphical user interface for Bragg coherent diffraction imaging. Journal of Applied Crystallography, 2022, 55, 1045-1054.	4.5	1
76	Mechanical Properties of Porous Nanophase Materials Measured by Instrumental Indentation. Materials Research Society Symposia Proceedings, 1995, 400, 311.	0.1	0
77	Following Microstructures during Deformation: In situ X-ray/Neutron Diffraction and HRDIC. IOP Conference Series: Materials Science and Engineering, 2019, 580, 012010.	0.6	0