

Alexandre Legris

List of Publications by Year in descending order

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papers

1,698
citations

257450

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289244

40
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56
all docs

56
docs citations

56
times ranked

1305
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomic-scale Ab-initio study of the Zr-H system: I. Bulk properties. Acta Materialia, 2002, 50, 3513-3526.	7.9	156
2	Influence of the interatomic potentials on molecular dynamics simulations of displacement cascades. Journal of Nuclear Materials, 2000, 280, 73-85.	2.7	120
3	Radiation-induced Ostwald ripening in oxide dispersion strengthened ferritic steels irradiated at high ion dose. Acta Materialia, 2014, 78, 328-340.	7.9	101
4	Identification and characterization of a new zirconium hydride. Journal of Microscopy, 2008, 232, 410-421.	1.8	90
5	Atomic-scale ab initio study of the Zr-H system: II. Interaction of H with plane defects and mechanical properties. Acta Materialia, 2004, 52, 1495-1502.	7.9	80
6	Mixed-State Hall Conductivity in High-Tc Superconductors: Direct Evidence of Its Independence on Disorder. Physical Review Letters, 1995, 74, 2351-2354.	7.8	68
7	Liquid metal embrittlement of the martensitic steel 91: influence of the chemical composition of the liquid metal.. Journal of Nuclear Materials, 2002, 301, 70-76.	2.7	65
8	Interfacial characterization in carbon nanotube reinforced aluminum matrix composites. Materials Characterization, 2015, 110, 94-101.	4.4	61
9	In situ TEM study of the stability of nano-oxides in ODS steels under ion-irradiation. Journal of Nuclear Materials, 2012, 428, 176-182.	2.7	59
10	Pressure sensitivity of olivine slip systems: first-principle calculations of generalised stacking faults. Physics and Chemistry of Minerals, 2005, 32, 646-654.	0.8	58
11	Embrittlement of the martensitic steel 91 tested in liquid lead. Journal of Nuclear Materials, 2001, 296, 256-264.	2.7	55
12	Low cycle fatigue behaviour of T91 martensitic steel at 300°C in air and in liquid lead bismuth eutectic. International Journal of Fatigue, 2006, 28, 843-851.	5.7	53
13	Atomic-scale study of diffusion in A15Nb3Sn. Physical Review B, 2007, 75, .	3.2	41
14	Phase-field modeling of precipitate evolution dynamics in elastically inhomogeneous low-symmetry systems: Application to hydride precipitation in Zr. Acta Materialia, 2012, 60, 5311-5321.	7.9	37
15	Irradiation of YBa2Cu3O7-x single crystals by 5.6 GeV xenon ions. Physica C: Superconductivity and Its Applications, 1991, 175, 111-118.	1.2	36
16	Influence of crystal chemistry on ideal plastic shear anisotropy in forsterite: First principle calculations. American Mineralogist, 2005, 90, 1072-1077.	1.9	36
17	Comparison of the neutron and ion irradiation response of nano-oxides in oxide dispersion strengthened materials. Journal of Materials Research, 2015, 30, 2210-2221.	2.6	34
18	Effect of electron irradiation in Bi2Sr2CaCu2O8 and Bi2Sr2CuO6 superconductors. Physica C: Superconductivity and Its Applications, 1995, 254, 88-92.	1.2	33

#	ARTICLE	IF	CITATIONS
19	Mechanical behaviour of the T91 martensitic steel under monotonic and cyclic loadings in liquid metals. <i>Journal of Nuclear Materials</i> , 2004, 335, 222-226.	2.7	33
20	Hexagonal-based ordered phases in H-Zr. <i>Physical Review B</i> , 2009, 80, .	3.2	32
21	Mesoscale modeling of coherent zirconium hydride precipitation under an applied stress. <i>Journal of Nuclear Materials</i> , 2013, 438, 32-40.	2.7	31
22	Quantitative phase field model for dislocation sink strength calculations. <i>Computational Materials Science</i> , 2014, 88, 50-60.	3.0	31
23	A new scenario for ϵ vacancy loop formation in zirconium based on atomic-scale modeling. <i>Acta Materialia</i> , 2019, 179, 93-106.	7.9	30
24	Simulation of Irradiation Effects in Reactor Pressure Vessel Steels: the Reactor for Virtual Experiments (REVE) Project. <i>Journal of Testing and Evaluation</i> , 2002, 30, 37-46.	0.7	27
25	Mechanisms of formation of Al ₄ Cu ₉ during mechanical alloying: An experimental study. <i>Acta Materialia</i> , 2015, 87, 216-224.	7.9	26
26	Atomic-based phase-field method for the modeling of radiation induced segregation in Fe-Cr. <i>Computational Materials Science</i> , 2016, 122, 249-262.	3.0	22
27	Influence of complex point defects in ordered alloys: An ab initio study of B2 Fe-Al-B. <i>Physical Review B</i> , 2006, 74, .	3.2	20
28	Influence of vacancy diffusional anisotropy: Understanding the growth of zirconium alloys under irradiation and their microstructure evolution. <i>Acta Materialia</i> , 2020, 195, 631-644.	7.9	20
29	Point defects and formation driving forces of complex metallic alloys: Atomic-scale study of Al ₄ Cu ₉ . <i>Intermetallics</i> , 2014, 46, 250-258.	3.9	19
30	Elastically driven morphology of coherent trigonal precipitates inside a close-packed hexagonal matrix. <i>Acta Materialia</i> , 2010, 58, 2250-2261.	7.9	18
31	Microscopic Phase-Field modeling of hcp/fcc interfaces. <i>Computational Materials Science</i> , 2017, 132, 62-73.	3.0	18
32	Comprehensive ab initio Thermodynamic Treatment of Impurities in Ordered Alloys: Application to Boron in B2 Fe-Al. <i>Physical Review Letters</i> , 2002, 89, 225502.	7.8	16
33	Multiscale modeling of Radiation Induced Segregation in iron based alloys. <i>Computational Materials Science</i> , 2018, 149, 324-335.	3.0	15
34	3D-magnetic ordering of Co ⁴⁺ dimers in a new Co ^{3+,4+} oxychloride: Neutron diffraction analysis and DFT calculations. <i>Chemical Physics Letters</i> , 2006, 432, 88-93.	2.6	14
35	Overview of Electrons and Orbitals in a Nearly One-Dimensional Co ³⁺ /Co ⁴⁺ System. <i>Chemistry of Materials</i> , 2008, 20, 1741-1749.	6.7	13
36	Relaxation path of metastable nanoclusters in oxide dispersion strengthened materials. <i>Journal of Nuclear Materials</i> , 2017, 484, 183-192.	2.7	13

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37	A phase field model for dislocation climb under irradiation: Formalism and applications to pure bcc iron and ferritic alloys. <i>International Journal of Plasticity</i> , 2020, 134, 102810.	8.8	13
38	Development of radiation damage during in-situ Kr ⁺⁺ irradiation of Fe Ni Cr model austenitic steels. <i>Journal of Nuclear Materials</i> , 2016, 475, 156-167.	2.7	12
39	Atomic-scale study of low-temperature equilibria in iron-rich Al-C-Fe. <i>Physical Review B</i> , 2008, 78, .	3.2	11
40	3D phase-field modelling of dislocation loop sink strengths. <i>Journal of Nuclear Materials</i> , 2017, 483, 62-81.	2.7	11
41	Irradiation effects of high energy ions in superconductor YBa ₂ Cu ₃ O ₇ . <i>Radiation Effects and Defects in Solids</i> , 1993, 126, 155-158.	1.2	9
42	Influence of the austenitic stainless steel microstructure on the void swelling under ion irradiation. <i>EPJ Nuclear Sciences & Technologies</i> , 2016, 2, 30.	0.7	8
43	Interfacial properties of hydrides in δ -Zr: a theoretical study. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 415001.	1.8	8
44	Threshold stress for crack initiation in yellow brass immersed in sodium nitrite solutions. <i>Corrosion Science</i> , 1999, 41, 1031-1035.	6.6	7
45	Influence of bulk composition on grain boundary segregation in B ₂ Fe [~] Al: An atomic-scale simulation study. <i>Physical Review B</i> , 2001, 64, .	3.2	7
46	Influence of columnar pins on the transport properties of YBa ₂ Cu ₃ O ₇ single crystals. <i>Physical Review B</i> , 1993, 48, 10634-10637.	3.2	6
47	Comprehensive Dissolution Current Noise Analysis during Stress Corrosion Cracking of Cu ₃ Au Alloys. <i>Journal of the Electrochemical Society</i> , 1999, 146, 3702-3710.	2.9	6
48	Ab initio thermodynamics of complex alloys: The case of Al- and Mn-doped ferritic steels. <i>Acta Materialia</i> , 2019, 169, 284-300.	7.9	5
49	Phase-field calculations of sink strength in Al, Ni, and Fe: A detailed study of elastic effects. <i>Computational Materials Science</i> , 2020, 183, 109905.	3.0	5
50	Recent Advances in Point Defect Studies Driven by Density Functional Theory. <i>Defect and Diffusion Forum</i> , 2004, 233-234, 77-86.	0.4	4
51	Structural, electronic and mechanical properties of C ₁₄ -Mg ₂ RE (RE = Eu, Er, Tm, Yb and Lu) Laves phases: A DFT study. <i>Chinese Journal of Physics</i> , 2019, 57, 146-156.	3.9	3
52	Influence of pinning by columnar defects on the longitudinal and hall resistivities of YBa ₂ Cu ₃ O ₇ single crystals in the mixed state. <i>Journal of Alloys and Compounds</i> , 1993, 195, 415-418.	5.5	1
53	Stress Corrosion Cracking Behavior of δ -Brass as a Function of the Oxide Transport Properties in NaNO ₂ Solutions. <i>Journal of the Electrochemical Society</i> , 2001, 148, B357.	2.9	1
54	Zr [~] Hydride Precipitation in Zirconium Alloys: an Example of Elastically Driven Morphology of Coherent Trigonal Precipitates inside a δ -Packed Hexagonal Matrix. <i>Solid State Phenomena</i> , 0, 172-174, 248-253.	0.3	0

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55	Atomic-Scale Modeling of Fe-Al-Mn-C Alloy Using Pair Models and Monte-Carlo Calculations. Minerals, Metals and Materials Series, 2017, , 393-401.	0.4	0