Ph Maugis

List of Publications by Year
in descending order

101 papers	1,728 citations	331670 21 h-index	330143 37 g-index
102 all docs	102 docs citations	102 times ranked	1281 citing authors

#	Article	IF	Citations
1	Effect of boron segregation on bainite nucleation during isothermal transformation. Scripta Materialia, 2022, 207, 114286.	5.2	6
2	Coupled modeling of irradiated fuel thermochemistry and gas diffusion during severe accidents. Journal of Nuclear Materials, 2022, 560, 153429.	2.7	4
3	Effect of substitutional Ni atoms on the Snoek relaxation in ferrite and martensite Fe-C alloys: An atomisitic investigation. Computational Materials Science, 2022, 203, 111083.	3.0	5
4	Grain size effect on interfacial segregation in nanomaterials. Journal of Physics and Chemistry of Solids, 2022, 164, 110620.	4.0	4
5	Modeling the Snoek peak in bct-martensite. Journal of Alloys and Compounds, 2022, 907, 164502.	5.5	4
6	A theory of Snoek relaxation in iron-carbon bct-martensite. Journal of Materials Science, 2022, 57, 10343-10358.	3.7	4
7	Modeling of fission product release during severe accidents with the fuel performance code ALCYONE. Nuclear Engineering and Design, 2022, 393, 111778.	1.7	1
8	Carbon diffusion in bcc- and bct-Fe: Influence of short-range Câ€“C pair interactions studied from first-principles calculations. Materials Chemistry and Physics, 2022, 286, 126159.	4.0	3
9	Atomistic investigation on the impact of substitutional Al and Si atoms on the carbon kinetics in ferrite. Journal of Alloys and Compounds, 2022, 921, 166031.	5.5	2
10	Stability of Zener order in martensite: an atomistic evidence. Scripta Materialia, 2021, 194, 113632.	5.2	9
11	Hydrogen diffusivity and solubility in stressed fcc crystals. Journal of Alloys and Compounds, 2021, 879, 160425.	5.5	5
12	Thermo-kinetic modelling of the giant Snoek effect in carbon-supersaturated iron. Journal of Alloys and Compounds, 2021, 877, 160236.	5.5	7
13	Impact of Ni alloying on Fe-C martensite ageing: an atomistic investigation. Scripta Materialia, 2021, 205, 114182.	5.2	6
14	Role of dislocation elastic field on impurity segregation in Fe-based alloys. Scientific Reports, 2021, 11, 1780.	3.3	10
15	Impact of stresses and alloying elements on ferrous martensite nanodomains. Materials Letters, 2021, , 131248.	2.6	1
16	Grain-boundary segregation of boron in high-strength steel studied by nano-SIMS and atom probe tomography. Acta Materialia, 2020, 182, 226-234.	7.9	48
17	Effect of stress on vacancy formation and diffusion in fcc systems: Comparison between DFT calculations and elasticity theory. Acta Materialia, 2020, 200, 869-882.	7.9	18
18	Magnetic behavior of transition metal solutes in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si3.svg"><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow></mml:math>-iron: A classification. Journal of Magnetism and Magnetic Materials, 2020, 513, 167223.	2.3	3

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19	Revisiting the pressure effect on carbon migration in iron. Materials Letters, 2020, 270, 127725.	2.6	7
20	Effect of thermal ageing on atomic redistribution at the ferrite/ferrite and ferrite/cementite interfaces. Journal of Materials Science, 2020, 55, 11561-11571.	3.7	6
21	A Temperatureâ€“Stress Phase Diagram of Carbon-Supersaturated bcc-Iron, Exhibiting â€œBeyond-Zenerâ€• Ordering. Journal of Phase Equilibria and Diffusion, 2020, 41, 269-275.	1.4	13
22	Characterization by APT and TEM of Xe nano-bubbles in CeO2. Nuclear Instruments & Methods in Physics Research B, 2020, 469, 24-27.	1.4	1
23	Delaying Effect of Cementite on Recrystallization Kinetics of a Ti-Nb Microalloyed High-Formability Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4059-4073.	2.2	2
24	Effects of cementite size and chemistry on the kinetics of austenite formation during heating of a high-formability steel. Computational Materials Science, 2020, 182, 109786.	3.0	9
25	Giant Snoek peak in ferrite due to carbon-carbon strain interactions. Materialia, 2020, 12, 100805.	2.7	7
26	Atom probe tomography study of austenite formation during heating of a high-formability steel. Journal of Materials Science, 2020, 55, 9286-9298.	3.7	0
27	Ferrite recrystallization and austenite formation during annealing of cold-rolled advanced high-strength steels: In situ synchrotron X-ray diffraction and modeling. Materials Characterization, 2019, 154, 20-30.	4.4	13
28	Nonlinear elastic behavior of iron-carbon alloys at the nanoscale. Computational Materials Science, 2019, 159, 460-469.	3.0	10
29	Development of 3rd generation Medium Mn duplex steels for automotive applications. Materials Science and Technology, 2019, 35, 204-219.	1.6	18
30	Combined Effect of Heating Rate and Microalloying Elements on Recrystallization During Annealing of Dual-Phase Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 2865-2875.	2.2	19
31	Thermodynamic stabilities in the Fe-Fe16C2 system: Influence of carbon-carbon interactions studied by DFT. Computational Materials Science, 2018, 150, 524-534.	3.0	6
32	Carbon diffusivity and kinetics of spinodal decomposition of martensite in a model Fe-Ni-C alloy. Materials Letters, 2018, 214, 213-216.	2.6	17
33	Influence of Heating Rate on Ferrite Recrystallization and Austenite Formation in Cold-Rolled Microalloyed Dual-Phase Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 66-77.	2.2	19
34	Ferrite, martensite and supercritical iron: A coherent elastochemical theory of stress-induced carbon ordering in steel. Acta Materialia, 2018, 158, 454-465.	7.9	19
35	Stress-controlled carbon diffusion channeling in bct-iron: A mean-field theory. Journal of Alloys and Compounds, 2018, 769, 1121-1131.	5.5	23
36	Atomic mean-field model of E21 ordering in Î³-iron-aluminium-carbon alloys. Journal of Alloys and Compounds, 2017, 696, 1120-1128.	5.5	2

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37	A first-principle study of the structural, elastic, lattice dynamical and thermodynamic properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si4.gif" overflow="scroll"><mml:mrow><mml:msup><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow><mml:mrow><mml:mo>â€³</mml:mo>< mathvariant="italic">Fe</mml:mi></mml:mrow><mml:mrow><mml:mn>16</mml:mn></mml:mrow></mml:msub><mml:msub><mml:m Computational Materials Science, 2017, 128, 278-286.	3.0	19
38	Temperature hysteresis of the order-disorder transition in carbon-supersaturated Î±-Fe. Physical Review B, 2017, 96, .	3.2	19
39	Co-segregation of boron and carbon atoms at dislocations in steel. Journal of Alloys and Compounds, 2017, 724, 1143-1148.	5.5	17
40	Effect of interstitial carbon distribution and nickel substitution on the tetragonality of martensite: A first-principles study. Intermetallics, 2017, 89, 92-99.	3.9	30
41	Structural, energetic and dynamical properties of ordered and disordered bcc Fe25at.%Ni alloys: A first-principles study. Computational Materials Science, 2017, 126, 82-89.	3.0	4
42	Formation of Ni3InGaAs phase in Ni/InGaAs contact at low temperature. Applied Physics Letters, 2016, 109, 131902.	3.3	10
43	A methodology for the measurement of the interfacial excess of solute at a grain boundary. Scripta Materialia, 2016, 120, 90-93.	5.2	30
44	Austenite growth and stability in medium Mn, medium Al Fe-C-Mn-Al steels. Computational Materials Science, 2016, 125, 206-217.	3.0	39
45	Empirical potential simulations of interstitial dislocation loops in uranium dioxide. Journal of Nuclear Materials, 2016, 479, 576-584.	2.7	13
46	MEAMfit: A reference-free modified embedded atom method (RF-MEAM) energy and force-fitting code. Computer Physics Communications, 2015, 196, 439-445.	7.5	29
47	Influence of a 2-D defect on the partitioning during the formation of a cementite particle in steels. Computational Materials Science, 2015, 106, 64-68.	3.0	12
48	Nucleation and growth of carbo-nitride nanoparticles in Î±-Fe-based alloys and associated interfacial process. Nanotechnology Reviews, 2015, 4, .	5.8	7
49	Spinodal Decomposition in Multilayered Fe-Cr System: Kinetic Stasis and Wave Instability. Jom, 2015, 67, 2202-2207.	1.9	5
50	Thermodynamic assessment of the Csâ€“Te binary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2015, 48, 1-12.	1.6	3
51	3D thermo-chemicalâ€“mechanical simulation of power ramps with ALCYONE fuel code. Journal of Nuclear Materials, 2014, 452, 578-594.	2.7	41
52	Chemical composition of nano-phases studied by anomalous small-angle X-ray scattering: Application to oxide nano-particles in ODS steels. Materials Characterization, 2014, 87, 138-142.	4.4	18
53	Austenite formation in a ferrite/martensite cold-rolled microstructure during annealing of advanced high-strength steels. Metallurgical Research and Technology, 2014, 111, 3-8.	0.7	10
54	Modelling of the interaction between phase transformation and precipitation: Coupled kinetics in microalloyed multiphase steels. Computational Materials Science, 2012, 55, 127-135.	3.0	10

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55	A Criterion for the Change from Fast to Slow Regime of Cementite Dissolution in Feâ€“Câ€“Mn Steels. Journal of Materials Science and Technology, 2012, 28, 728-736.	10.7	32
56	Characterization and Modeling of Precipitation Kinetics in a Fe-Si-Ti Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4999-5008.	2.2	16
57	A nanometre-sized porous phase in ironâ€“carbonâ€“boron system. Materials Letters, 2010, 64, 2559-2561.	2.6	0
58	First-principles study of the stability of NbC and NbN precipitates under coherency strains in Î±-iron. Computational Materials Science, 2010, 49, 60-63.	3.0	41
59	Aluminum and vacancies in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-iron: Dissolution, diffusion, and clustering. Physical Review B, 2010, 81, .	3.2	53
60	Kinetics of heterogeneous dislocation precipitation of NbC in alpha-iron. Acta Materialia, 2008, 56, 5535-5543.	7.9	75
61	Kinetics of heterogeneous grain boundary precipitation of NbC in Î±-iron: A Monte Carlo study. Acta Materialia, 2008, 56, 5653-5667.	7.9	37
62	First principle calculations of the Îº-Fe3AlC perovskite and ironâ€“aluminium intermetallics. Intermetallics, 2008, 16, 345-352.	3.9	72
63	A Calphad assessment of Alâ€“Câ€“Fe system with the carbide modelled as an ordered form of the fcc phase. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2008, 32, 361-370.	1.6	60
64	Heterogeneous precipitation on dislocations: effect of the elastic field on precipitate morphology. Philosophical Magazine, 2008, 88, 1555-1567.	1.6	14
65	Atomic-scale study of low-temperature equilibria in iron-rich Al-C-Fe. Physical Review B, 2008, 78, .	3.2	11
66	Precipitation of niobium carbonitrides in ferrite: chemical composition measurements and thermodynamic modelling. Philosophical Magazine Letters, 2007, 87, 645-656.	1.2	35
67	Study of Diffusion and Reaction Diffusion in the Fe-C-Nb System. Defect and Diffusion Forum, 2007, 264, 163-169.	0.4	0
68	Phases Equilibrium Study in Quaternary Iron-rich Fe-Al-Mn-C Alloys. ISIJ International, 2007, 47, 898-906.	1.4	19
69	Modelling the precipitation of NbC on dislocations in Î±-Fe. Acta Materialia, 2007, 55, 1255-1266.	7.9	104
70	Relation between composition, microstructure and oxidation in iron aluminides. Intermetallics, 2006, 14, 1214-1220.	3.9	22
71	Study of the effect of cold deformation on the austenite formation. Revue De Metallurgie, 2006, 103, 465-471.	0.3	5
72	A small-angle neutron scattering study of fine-scale NbC precipitation kinetics in the Î±-Feâ€“Nbâ€“C system. Journal of Applied Crystallography, 2006, 39, 473-482.	4.5	77

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73	Ab Initio calculations of phase stabilities in the Feâˆ'Alâˆ'C system and CALPHAD-Type assessment of the iron-rich corner. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 3397-3401.	2.2	34
74	Bainite tip radius prediction by analogy with indentation. Scripta Materialia, 2006, 54, 1527-1529.	5.2	4
75	The Joint Research Program â€œCPR Precipitationâ€•â€" Towards More Powerful Computer Assisted Metallurgy Codes. Advanced Engineering Materials, 2006, 8, 1220-1222.	3.5	0
76	Atom Probe Tomography I. Early Stages of Precipitation of NbC and NbN in Ferritic Steels. Advanced Engineering Materials, 2006, 8, 1202-1205.	3.5	54
77	Kinetics of vanadium carbonitride precipitation in steel: A computer model. Acta Materialia, 2005, 53, 3359-3367.	7.9	160
78	Application of thermodynamics and diffusion in solids to the development of high strength steels for the Automotive Industry. Materialwissenschaft Und Werkstofftechnik, 2005, 36, 467-470.	0.9	0
79	Kinetics of Precipitation: Comparison between Monte Carlo Simulations, Cluster Dynamics and the Classical Laws. Defect and Diffusion Forum, 2005, 237-240, 671-676.	0.4	6
80	Atomistic Monte Carlo Simulations of Homogeneous and Heterogeneous Precipitation on Grain Boundaries of NbC in Steels. Defect and Diffusion Forum, 2005, 237-240, 721-726.	0.4	2
81	A Computer Model of Carbonitride Precipitation in Steel. , 2005, , 55-70.		0
82	Oxidation microstructure of iron aluminides. Materials at High Temperatures, 2005, 22, 481-484.	1.0	0
83	Precipitation of niobium carbides in Feâ€"Câ€"Nb steel. Surface and Interface Analysis, 2004, 36, 585-588.	1.8	17
84	Precipitation of copper in ferrite: Prediction of the strengthening kinetics. Revue De Metallurgie, 2004, 101, 71-78.	0.3	3
85	A Model for Niobium Carbonitride Precipitation in Ferrite. Materials Science Forum, 2003, 426-432, 1313-1318.	0.3	3
86	Bainite transformation stasis controlled by plastic work in austenite. Revue De Metallurgie, 2003, 100, 103-108.	0.3	10
87	Statistical self-similarity in Rhinesâ€™ concept of unique multiphase diffusion paths on the ternary gibbsâ€™ isotherm. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 3357-3365.	2.2	1
88	Title is missing!. Transport in Porous Media, 2002, 47, 1-27.	2.6	1
89	Monte Carlo Simulation of NbC Precipitation Kinetics in Î±-Fe. Defect and Diffusion Forum, 2001, 194-199, 1779-1786.	0.4	15
90	Modeling of Niobium Carbide Precipitation in Steel. Defect and Diffusion Forum, 2001, 194-199, 1767-1772.	0.4	8

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91	Relationship between the electronic structure and the precipitation of FeTiP in interstitial-free ferritic steels. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 2393-2403.	0.6	9
92	Multiple interface velocity solutions for ternary biphase infinite diffusion couples. Acta Materialia, 1997, 45, 1941-1954.	7.9	20
93	Degeneracy of diffusion paths in ternary, twoâ€phase diffusion couples. Journal of Applied Physics, 1996, 79, 7592-7595.	2.5	12
94	From a discrete to a continuum model for static antiphase boundaries. Physical Review B, 1996, 53, 5276-5286.	3.2	16
95	On the Interface Transfer Coefficient in Second Phase Growth Models. Materials Science Forum, 1994, 155-156, 389-392.	0.3	0
96	Interface transfer coefficient in second-phase-growth models. Physical Review B, 1994, 49, 11580-11587.	3.2	20
97	Alî—¸Ti reactive interdiffusion studied by STIMS and RBS. Vacuum, 1994, 45, 413-417.	3.5	2
98	Thin-Film Reactive Interdiffusion in The TI-AL System. Materials Research Society Symposia Proceedings, 1991, 237, 679.	0.1	2
99	Precipitation of Niobium Carbonitrides: Chemical Composition Measurements and Modeling. Materials Science Forum, 0, 539-543, 4196-4201.	0.3	4
100	Effect of Dislocations on Precipitation of Nb-C in Î±-Fe. Materials Science Forum, 0, 539-543, 4161-4166.	0.3	2
101	The Role of Dispersions in Modeling the Kinetics of Phase Transformations. Solid State Phenomena, 0, 172-174, 279-284.	0.3	2