Joakim Odqvist

List of Publications by Year
in descending order

78 papers	2,195 citations	201385 27 h-index	243296 44 g-index
80 all docs	80 docs citations	80 times ranked	1434 citing authors

#	Article	IF	Citations
1	Phase Equilibria and Thermodynamic Properties in the Fe-Cr System. Critical Reviews in Solid State and Materials Sciences, 2010, 35, 125-152.	6.8	172
2	An improved thermodynamic modeling of the Feâ€“Cr system down to zero kelvin coupled with key experiments. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 355-366.	0.7	141
3	The phase-field approach and solute drag modeling of the transition to massive Î³ â†’ Î± transformation in binary Fe-C alloys. Acta Materialia, 2003, 51, 1327-1339.	3.8	132
4	Electronic structure and effective chemical and magnetic exchange interactions in bcc Fe-Cr alloys. Physical Review B, 2009, 79, .	1.1	96
5	Quantitative Evaluation of Spinodal Decomposition in Fe-Cr by Atom Probe Tomography and Radial Distribution Function Analysis. Microscopy and Microanalysis, 2013, 19, 665-675.	0.2	96
6	Effect of alloying elements on the Î³ to Î± transformation in steel. I. Acta Materialia, 2002, 50, 3213-3227.	3.8	75
7	Study of decomposition of ferrite in a duplex stainless steel cold worked and aged at 450â€“500Â°C. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 499, 489-492.	2.6	67
8	Concurrent phase separation and clustering in the ferrite phase during low temperature stress aging of duplex stainless steel weldments. Acta Materialia, 2012, 60, 5818-5827.	3.8	58
9	The 475Â°C embrittlement in Feâ€“20Cr and Feâ€“20Crâ€“X (X=Ni, Cu, Mn) alloys studied by mechanical testing and atom probe tomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 574, 123-129.	2.6	55
10	Exploring the relationship between the microstructure and strength of fresh and tempered martensite in a maraging stainless steel Feâ€“15Crâ€“5Ni. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 745, 420-428.	2.6	54
11	A general method for calculating deviation from local equilibrium at phase interfaces. Acta Materialia, 2003, 51, 1035-1043.	3.8	51
12	Nanostructure evolution and mechanical property changes during aging of a super duplex stainless steel at 300 Â°C. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 647, 241-248.	2.6	51
13	Quantitative electron microscopy and physically based modelling of Cu precipitation in precipitation-hardening martensitic stainless steel 15-5 PH. Materials and Design, 2018, 143, 141-149.	3.3	50
14	Synthesis and phase separation of (Ti,Zr)C. Acta Materialia, 2014, 66, 209-218.	3.8	47
15	Machine Learning to Predict the Martensite Start Temperature in Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 2081-2091.	1.1	45
16	A phase-field and electron microscopy study of phase separation in Feâ€“Cr alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 534, 552-556.	2.6	44
17	Influence of solidification structure on austenite to martensite transformation in additively manufactured hot-work tool steels. Acta Materialia, 2021, 215, 117044.	3.8	44
18	On the three-dimensional structure of WC grains in cemented carbides. Acta Materialia, 2013, 61, 4726-4733.	3.8	42

#	Article	IF	Citations
19	Formation and interaction of point defects in group IVb transition metal carbides and nitrides. Computational Materials Science, 2015, 104, 147-154.	1.4	36
20	Effect of heat treatment above the miscibility gap on nanostructure formation due to spinodal decomposition in Fe-52.85 at.%Cr. Acta Materialia, 2018, 145, 347-358.	3.8	34
21	A high-resolution analytical scanning transmission electron microscopy study of the early stages of spinodal decomposition in binary Feâ€“Cr. Materials Characterization, 2015, 109, 216-221.	1.9	32
22	Interface conditions during diffusion-controlled phase transformations. Scripta Materialia, 2004, 50, 547-550.	2.6	31
23	Vacancy-cluster mechanism of metal-atom diffusion in substoichiometric carbides. Physical Review B, 2013, 87, .	1.1	31
24	Microstructure, grain size distribution and grain shape in WCâ€“Co alloys sintered at different carbon activities. International Journal of Refractory Metals and Hard Materials, 2014, 43, 205-211.	1.7	31
25	Application of interrupted cooling experiments to study the mechanism of bainitic ferrite formation in steels. Acta Materialia, 2013, 61, 4512-4523.	3.8	30
26	Initial clustering â€“ a key factor for phase separation kinetics in Feâ€“Cr-based alloys. Scripta Materialia, 2014, 75, 62-65.	2.6	30
27	Effect of carbon activity and powder particle size on WC grain coarsening during sintering of cemented carbides. International Journal of Refractory Metals and Hard Materials, 2014, 42, 30-35.	1.7	29
28	Effect of cooling rate after solution treatment on subsequent phase separation during aging of Fe-Cr alloys: A small-angle neutron scattering study. Acta Materialia, 2017, 134, 221-229.	3.8	29
29	Effect of carbon vacancies on thermodynamic properties of TiCâ€“ZrC mixed carbides. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2014, 46, 87-91.	0.7	28
30	Self-organizing nanostructured lamellar (Ti,Zr)C â€" A superhard mixed carbide. International Journal of Refractory Metals and Hard Materials, 2015, 51, 25-28.	1.7	28
31	Comparison between solute drag and dissipation of Gibbs energy by diffusion. Scripta Materialia, 2001, 45, 221-227.	2.6	27
32	Precipitation of multiple carbides in martensitic CrMoV steels - experimental analysis and exploration of alloying strategy through thermodynamic calculations. Materialia, 2020, 9, 100630.	1.3	27
33	Phase-Field Modeling of Sigma-Phase Precipitation in 25Cr7Ni4Mo Duplex Stainless Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4914-4928.	1.1	26
34	Structural Characterization of Phase Separation in Fe-Cr: A Current Comparison of Experimental Methods. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5942-5952.	1.1	25
35	Microstructure of Martensite in Feâ€“Câ€“Cr and its Implications for Modelling of Carbide Precipitation during Tempering. ISIJ International, 2014, 54, 2649-2656.	0.6	24
36	Nanostructure, microstructure and mechanical properties of duplex stainless steels 25Cr-7 Ni and 22Cr-5Ni (wt.%) aged at 325â€¯Â°C. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 512-520.	2.6	24

#	Article	IF	Citations
37	Quantitative modeling and experimental verification of carbide precipitation in a martensitic Feâ€"0.16wt%Câ€"4.0wt%Cr alloy. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2016, 53, 39-48.	0.7	23
38	Effect of concentration dependent gradient energy coefficient on spinodal decomposition in the Fe-Cr system. Computational Materials Science, 2018, 143, 446-453.	1.4	22
39	Early stages of spinodal decomposition in Feâ€"Cr resolved by in-situ small-angle neutron scattering. Applied Physics Letters, 2015, 106, 061911.	1.5	20
40	Predicting strain-induced martensite in austenitic steels by combining physical modelling and machine learning. Materials and Design, 2021, 197, 109199.	3.3	19
41	Langerâ€"Schwartzâ€"Kampmannâ€"Wagner precipitation simulations: assessment of models and materials design application for Cu precipitation in PH stainless steels. Journal of Materials Science, 2021, 56, 2650-2671.	1.7	19
42	Direct atom probe tomography observations of concentration fluctuations in Feâ€"Cr solid solution. Scripta Materialia, 2015, 98, 13-15.	2.6	17
43	Effect of solution treatment on spinodal decomposition during aging of an Fe-46.5 at.% Cr alloy. Journal of Materials Science, 2017, 52, 326-335.	1.7	17
44	Microstructure evolution during phase separation in Ti-Zr-C. International Journal of Refractory Metals and Hard Materials, 2016, 61, 238-248.	1.7	16
45	Microstructure evolution during tempering of martensitic Feâ€"Câ€"Cr alloys at 700ÂÂ°C. Journal of Materials Science, 2018, 53, 6939-6950.	1.7	15
46	An effective mobility approach to solute drag in computer simulations of migrating grain boundaries. Computational Materials Science, 2008, 44, 265-273.	1.4	14
47	Investigation of Spinodal Decomposition in Fe-Cr Alloys: CALPHAD Modeling and Phase Field Simulation. Solid State Phenomena, 0, 172-174, 1060-1065.	0.3	14
48	Influence of graphite morphology on the corrosion-fatigue properties of the ferritic Si-Mo-Al cast iron SiMo1000. International Journal of Fatigue, 2020, 140, 105781.	2.8	13
49	Early stages of cementite precipitation during tempering of 1Câ€"1Cr martensitic steel. Journal of Materials Science, 2019, 54, 9222-9234.	1.7	11
50	Modelling of prismatic grain growth in cemented carbides. International Journal of Refractory Metals and Hard Materials, 2019, 78, 310-319.	1.7	11
51	Influence of ferritic nitrocarburizing on the high-temperature corrosion-fatigue properties of the Si-Mo-Al cast iron SiMo1000. International Journal of Fatigue, 2021, 143, 105984.	2.8	11
52	Effect of synthesis temperature and aging on the microstructure and hardness of Ti-Zr-C. International Journal of Refractory Metals and Hard Materials, 2018, 73, 99-105.	1.7	10
53	Additive manufacturing of the ferritic stainless steel SS441. Additive Manufacturing, 2020, 36, 101580.	1.7	10
54	Small-angle neutron scattering quantification of phase separation and the corresponding embrittlement of a super duplex stainless steel after long-term aging at 300Â°C. Materialia, 2020, 12, 100771.	1.3	8

#	Article	IF	Citations
55	On coarsening of cementite during tempering of martensitic steels. Materials Science and Technology, 2020, 36, 887-893.	0.8	8
56	On the transition to massive growth during the Î³â†'Î± transformation in Feâ€"Ni alloys. Scripta Materialia, 2005, 52, 193-197.	2.6	7
57	Corrosion fatigue of austenitic cast iron Ni-Resist D5S and austenitic cast steel HK30 in argon and synthetic diesel exhaust at 800ÂÂ°C. International Journal of Fatigue, 2020, 132, 105396.	2.8	7
58	Experimental and theoretical investigation of precipitate coarsening rate in Z-phase strengthened steels. Materialia, 2018, 4, 247-254.	1.3	6
59	Influence of tension and compression dwell on the creep-fatigue properties of the austenitic cast iron Ni-resist D5S. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 814, 141179.	2.6	5
60	Quantitative Nanostructure and Hardness Evolution in Duplex Stainless Steels: Under Real Low-Temperature Service Conditions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 723-735.	1.1	5
61	Observations of copper clustering in a 25Cr-7Ni super duplex stainless steel during low-temperature aging under load. Philosophical Magazine Letters, 0, , 1-8.	0.5	4
62	Liquid Phase Sintering of (Ti,Zr)C with WC-Co. Materials, 2017, 10, 57.	1.3	4
63	Phase field modelling of diffusion induced grain boundary migration in binary alloys.. Computational Materials Science, 2020, 184, 109914.	1.4	4
64	Towards predictive simulations of spinodal decomposition in Fe-Cr alloys. Computational Materials Science, 2022, 202, 110955.	1.4	4
65	Continuum plasticity modelling of work hardening for precipitation-hardened martensitic steel guided by atom probe tomography. Materials and Design, 2022, 215, 110463.	3.3	4
66	Small-angle neutron scattering study on phase separation in a super duplex stainless steel at 300 Â°C â€" Comparing hot-rolled and TIG welded material. Materials Characterization, 2022, 190, 112044.	1.9	4
67	Influence of Dynamic Strain Ageing and Long Term Ageing on Deformation and Fracture Behaviors of Alloy 617. Materials Science Forum, 0, 879, 306-311.	0.3	3
68	Nuclear and magnetic small-angle neutron scattering in self-organizing nanostructured Fe1âˆ'Cr alloys. Materials Characterization, 2020, 164, 110347.	1.9	3
69	Corrosionâ€"microstructure interrelations in new low-lead and lead-free brass alloys. Materials Science and Technology, 2020, 36, 917-924.	0.8	2
70	Precision Thermal Treatments, Atom Probe Characterization, and Modeling to Describe the Fe-Cr Metastable Miscibility Gap. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 1453-1464.	1.1	2
71	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 2012, , 221-226.		2
72	Nanostructure in Fe0.65Cr0.35 close to the upper limit of the miscibility gap. Scripta Materialia, 2020, 180, 62-65.	2.6	2

#	Article	IF	Citations
73	Effect of Stress on Spinodal Decomposition in Binary Alloys: Atomistic Modeling and Atom Probe Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 0, , 1.	1.1	2
74	On the mechanical behavior of sintered Astaloy-85Mo: Influence of porosity and sinter conditions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 841, 143052.	2.6	2
75	A transmission electron microscopy study of discontinuous precipitation in the high misfit system (Ti,Zr)C. Materials Today Communications, 2020, 25, 101281.	0.9	1
76	An Experimental Assessment of the Î± + Î±â€™ Miscibility Gap in Fe-Cr. Minerals, Metals and Materials Series, 2017, , 711-718.	0.3	1
77	Precipitation Kinetics During Post-heat Treatment of an Additively Manufactured Ferritic Stainless Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 0, , .	1.1	1
78	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 0, , 221-226.		0