

# Joakim Odqvist

## List of Publications by Citations

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76  
papers

1,630  
citations

24  
h-index

38  
g-index

80  
ext. papers

1,910  
ext. citations

4.4  
avg, IF

4.83  
L-index

#	Paper	IF	Citations
76	Phase Equilibria and Thermodynamic Properties in the Fe-Cr System. <i>Critical Reviews in Solid State and Materials Sciences</i> , <b>2010</b> , 35, 125-152	10.1	135
75	The phase-field approach and solute drag modeling of the transition to massive $\delta$ transformation in binary Fe-C alloys. <i>Acta Materialia</i> , <b>2003</b> , 51, 1327-1339	8.4	116
74	An improved thermodynamic modeling of the Fe-Cr system down to zero kelvin coupled with key experiments. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2011</b> , 35, 355-366	1.9	114
73	Electronic structure and effective chemical and magnetic exchange interactions in bcc Fe-Cr alloys. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	84
72	Quantitative evaluation of spinodal decomposition in Fe-Cr by atom probe tomography and radial distribution function analysis. <i>Microscopy and Microanalysis</i> , <b>2013</b> , 19, 665-75	0.5	73
71	Effect of alloying elements on the $\delta$ to $\epsilon$ transformation in steel. I. <i>Acta Materialia</i> , <b>2002</b> , 50, 3213-3227	8.4	67
70	Study of decomposition of ferrite in a duplex stainless steel cold worked and aged at 450-500°C. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2009</b> , 499, 489-492	5.3	57
69	Concurrent phase separation and clustering in the ferrite phase during low temperature stress aging of duplex stainless steel weldments. <i>Acta Materialia</i> , <b>2012</b> , 60, 5818-5827	8.4	47
68	The 475 °C embrittlement in Fe <sub>20</sub> Cr and Fe <sub>20</sub> Cr <sub>X</sub> (X=Ni, Cu, Mn) alloys studied by mechanical testing and atom probe tomography. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2013</b> , 574, 123-129	5.3	43
67	A general method for calculating deviation from local equilibrium at phase interfaces. <i>Acta Materialia</i> , <b>2003</b> , 51, 1035-1043	8.4	43
66	Nanostructure evolution and mechanical property changes during aging of a super duplex stainless steel at 300 °C. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2015</b> , 647, 241-248	5.3	38
65	A phase-field and electron microscopy study of phase separation in Fe-Cr alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2012</b> , 534, 552-556	5.3	35
64	Synthesis and phase separation of (Ti,Zr)C. <i>Acta Materialia</i> , <b>2014</b> , 66, 209-218	8.4	34
63	On the three-dimensional structure of WC grains in cemented carbides. <i>Acta Materialia</i> , <b>2013</b> , 61, 4726-4733	8.4	33
62	Quantitative electron microscopy and physically based modelling of Cu precipitation in precipitation-hardening martensitic stainless steel 15-5 PH. <i>Materials and Design</i> , <b>2018</b> , 143, 141-149	8.1	30
61	Application of interrupted cooling experiments to study the mechanism of bainitic ferrite formation in steels. <i>Acta Materialia</i> , <b>2013</b> , 61, 4512-4523	8.4	29
60	Machine Learning to Predict the Martensite Start Temperature in Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2019</b> , 50, 2081-2091	2.3	28

59	Formation and interaction of point defects in group IVb transition metal carbides and nitrides. <i>Computational Materials Science</i> , <b>2015</b> , 104, 147-154	3.2	28
58	Initial clustering is a key factor for phase separation kinetics in Fe-Cr-based alloys. <i>Scripta Materialia</i> , <b>2014</b> , 75, 62-65	5.6	27
57	Exploring the relationship between the microstructure and strength of fresh and tempered martensite in a maraging stainless steel Fe-15Cr-3Ni. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 745, 420-428	5.3	27
56	Interface conditions during diffusion-controlled phase transformations. <i>Scripta Materialia</i> , <b>2004</b> , 50, 547-550	5.5	26
55	A high-resolution analytical scanning transmission electron microscopy study of the early stages of spinodal decomposition in binary Fe-Cr. <i>Materials Characterization</i> , <b>2015</b> , 109, 216-221	3.9	25
54	Vacancy-cluster mechanism of metal-atom diffusion in substoichiometric carbides. <i>Physical Review B</i> , <b>2013</b> , 87,	3.3	25
53	Comparison between solute drag and dissipation of Gibbs energy by diffusion. <i>Scripta Materialia</i> , <b>2001</b> , 45, 221-227	5.6	25
52	Self-organizing nanostructured lamellar (Ti,Zr)C is a superhard mixed carbide. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2015</b> , 51, 25-28	4.1	24
51	Effect of carbon activity and powder particle size on WC grain coarsening during sintering of cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2014</b> , 42, 30-35	4.1	24
50	Microstructure, grain size distribution and grain shape in WC-Co alloys sintered at different carbon activities. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2014</b> , 43, 205-211	4.1	24
49	Structural Characterization of Phase Separation in Fe-Cr: A Current Comparison of Experimental Methods. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2016</b> , 47, 5942-5952	2.3	21
48	Microstructure of Martensite in Fe-Cr and its Implications for Modelling of Carbide Precipitation during Tempering. <i>ISIJ International</i> , <b>2014</b> , 54, 2649-2656	1.7	21
47	Effect of heat treatment above the miscibility gap on nanostructure formation due to spinodal decomposition in Fe-52.85 at.%Cr. <i>Acta Materialia</i> , <b>2018</b> , 145, 347-358	8.4	19
46	Phase-Field Modeling of Sigma-Phase Precipitation in 25Cr7Ni4Mo Duplex Stainless Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2017</b> , 48, 4914-4928	2.3	19
45	Effect of cooling rate after solution treatment on subsequent phase separation during aging of Fe-Cr alloys: A small-angle neutron scattering study. <i>Acta Materialia</i> , <b>2017</b> , 134, 221-229	8.4	19
44	Early stages of spinodal decomposition in Fe-Cr resolved by in-situ small-angle neutron scattering. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 061911	3.4	17
43	Effect of concentration dependent gradient energy coefficient on spinodal decomposition in the Fe-Cr system. <i>Computational Materials Science</i> , <b>2018</b> , 143, 446-453	3.2	17
42	Quantitative modeling and experimental verification of carbide precipitation in a martensitic Fe-0.16wt%C-0.0wt%Cr alloy. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2016</b> , 53, 39-48	1.9	17

41	Effect of carbon vacancies on thermodynamic properties of TiC/ZrC mixed carbides. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2014</b> , 46, 87-91	1.9	17
40	Precipitation of multiple carbides in martensitic CrMoV steels - experimental analysis and exploration of alloying strategy through thermodynamic calculations. <i>Materialia</i> , <b>2020</b> , 9, 100630	3.2	16
39	Nanostructure, microstructure and mechanical properties of duplex stainless steels 25Cr-7 Ni and 22Cr-5Ni (wt.%) aged at 325 °C. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 754, 512-520	5.3	14
38	Direct atom probe tomography observations of concentration fluctuations in Fe/Cr solid solution. <i>Scripta Materialia</i> , <b>2015</b> , 98, 13-15	5.6	14
37	Effect of solution treatment on spinodal decomposition during aging of an Fe-46.5 at.% Cr alloy. <i>Journal of Materials Science</i> , <b>2017</b> , 52, 326-335	4.3	14
36	Microstructure evolution during tempering of martensitic Fe/Cr alloys at 700 °C. <i>Journal of Materials Science</i> , <b>2018</b> , 53, 6939-6950	4.3	12
35	Investigation of Spinodal Decomposition in Fe-Cr Alloys: CALPHAD Modeling and Phase Field Simulation. <i>Solid State Phenomena</i> , <b>2011</b> , 172-174, 1060-1065	0.4	12
34	An effective mobility approach to solute drag in computer simulations of migrating grain boundaries. <i>Computational Materials Science</i> , <b>2008</b> , 44, 265-273	3.2	12
33	Microstructure evolution during phase separation in Ti-Zr-C. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2016</b> , 61, 238-248	4.1	10
32	Langer/Schwartz/Kampmann/Wagner precipitation simulations: assessment of models and materials design application for Cu precipitation in PH stainless steels. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 2650-2671	4.3	10
31	Modelling of prismatic grain growth in cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2019</b> , 78, 310-319	4.1	8
30	Predicting strain-induced martensite in austenitic steels by combining physical modelling and machine learning. <i>Materials and Design</i> , <b>2021</b> , 197, 109199	8.1	8
29	On the transition to massive growth during the BCC transformation in Fe/Ni alloys. <i>Scripta Materialia</i> , <b>2005</b> , 52, 193-197	5.6	7
28	Corrosion fatigue of austenitic cast iron Ni-Resist D5S and austenitic cast steel HK30 in argon and synthetic diesel exhaust at 800 °C. <i>International Journal of Fatigue</i> , <b>2020</b> , 132, 105396	5	6
27	Small-angle neutron scattering quantification of phase separation and the corresponding embrittlement of a super duplex stainless steel after long-term aging at 300 °C. <i>Materialia</i> , <b>2020</b> , 12, 100771	3.2	5
26	On coarsening of cementite during tempering of martensitic steels. <i>Materials Science and Technology</i> , <b>2020</b> , 36, 887-893	1.5	5
25	Influence of graphite morphology on the corrosion-fatigue properties of the ferritic Si-Mo-Al cast iron SiMo1000. <i>International Journal of Fatigue</i> , <b>2020</b> , 140, 105781	5	5
24	Influence of ferritic nitrocarburizing on the high-temperature corrosion-fatigue properties of the Si-Mo-Al cast iron SiMo1000. <i>International Journal of Fatigue</i> , <b>2021</b> , 143, 105984	5	5

23	Experimental and theoretical investigation of precipitate coarsening rate in Z-phase strengthened steels. <i>Materialia</i> , <b>2018</b> , 4, 247-254	3.2	5
22	Influence of solidification structure on austenite to martensite transformation in additively manufactured hot-work tool steels. <i>Acta Materialia</i> , <b>2021</b> , 215, 117044	8.4	5
21	Early stages of cementite precipitation during tempering of 1Cr martensitic steel. <i>Journal of Materials Science</i> , <b>2019</b> , 54, 9222-9234	4.3	4
20	Effect of synthesis temperature and aging on the microstructure and hardness of Ti-Zr-C. <i>International Journal of Refractory Metals and Hard Materials</i> , <b>2018</b> , 73, 99-105	4.1	4
19	Additive manufacturing of the ferritic stainless steel SS441. <i>Additive Manufacturing</i> , <b>2020</b> , 36, 101580	6.1	4
18	Liquid Phase Sintering of (Ti,Zr)C with WC-Co. <i>Materials</i> , <b>2017</b> , 10,	3.5	3
17	Observations of copper clustering in a 25Cr-7Ni super duplex stainless steel during low-temperature aging under load. <i>Philosophical Magazine Letters</i> , <b>2012</b> , 1-8	1	3
16	Influence of tension and compression dwell on the creep-fatigue properties of the austenitic cast iron Ni-resist D5S. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 814, 141179	5.3	3
15	Nuclear and magnetic small-angle neutron scattering in self-organizing nanostructured Fe10Cr alloys. <i>Materials Characterization</i> , <b>2020</b> , 164, 110347	3.9	2
14	Nanostructure in Fe0.65Cr0.35 close to the upper limit of the miscibility gap. <i>Scripta Materialia</i> , <b>2020</b> , 180, 62-65	5.6	2
13	Influence of Dynamic Strain Ageing and Long Term Ageing on Deformation and Fracture Behaviors of Alloy 617. <i>Materials Science Forum</i> , <b>2016</b> , 879, 306-311	0.4	1
12	Quantitative Nanostructure and Hardness Evolution in Duplex Stainless Steels: Under Real Low-Temperature Service Conditions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2022</b> , 53, 723	2.3	1
11	3D Analysis of Phase Separation in Ferritic Stainless Steels <b>2012</b> , 221-226		1
10	Corrosion-microstructure interrelations in new low-lead and lead-free brass alloys. <i>Materials Science and Technology</i> , <b>2020</b> , 36, 917-924	1.5	1
9	A transmission electron microscopy study of discontinuous precipitation in the high misfit system (Ti,Zr)C. <i>Materials Today Communications</i> , <b>2020</b> , 25, 101281	2.5	0
8	Effect of Stress on Spinodal Decomposition in Binary Alloys: Atomistic Modeling and Atom Probe Tomography. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1	2.3	0
7	Towards predictive simulations of spinodal decomposition in Fe-Cr alloys. <i>Computational Materials Science</i> , <b>2022</b> , 202, 110955	3.2	0
6	An Experimental Assessment of the $\beta$ - $\delta$ Miscibility Gap in Fe-Cr. <i>Minerals, Metals and Materials Series</i> , <b>2017</b> , 711-718	0.3	0

5	Phase field modelling of diffusion induced grain boundary migration in binary alloys.. <i>Computational Materials Science</i> , <b>2020</b> , 184, 109914	3.2	0
4	Precision Thermal Treatments, Atom Probe Characterization, and Modeling to Describe the Fe-Cr Metastable Miscibility Gap. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2021</b> , 52, 1453-1464	2.3	0
3	Continuum plasticity modelling of work hardening for precipitation-hardened martensitic steel guided by atom probe tomography. <i>Materials and Design</i> , <b>2022</b> , 215, 110463	8.1	0
2	3D Analysis of Phase Separation in Ferritic Stainless Steels221-226		
1	On the mechanical behavior of sintered Astaloy-85Mo: Influence of porosity and sinter conditions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2022</b> , 841, 143052	5.3	