Peter Hedstrm

List of Publications by Citations

116 papers	2,126 citations	26 h-index	40 g-index
122 ext. papers	2,592 ext. citations	4.2 avg, IF	5.32 L-index

#	Paper	IF	Citations
116	Effect of carbon content on variant pairing of martensite in Fe–C alloys. *Acta Materialia*, **2012**, 60, 7265-7274	8.4	122
115	An improved thermodynamic modeling of the Fe–Cr system down to zero kelvin coupled with key experiments. *Calphad: Computer Coupling of Phase Diagrams and Thermochemistry*, **2011**, 35, 355-366	1.9	114
114	Deformation Microstructure and Deformation-Induced Martensite in Austenitic Fe-Cr-Ni Alloys Depending on Stacking Fault Energy. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2017**, 48, 1-7	2.3	109
113	Microwave assisted combustion synthesis of nanocrystalline yttria and its powder characteristics. *Powder Technology*, **2009**, 191, 309-314	5.2	79
112	Quantitative evaluation of spinodal decomposition in Fe-Cr by atom probe tomography and radial distribution function analysis. *Microscopy and Microanalysis*, **2013**, 19, 665-75	0.5	73
111	Combustion synthesis of Y2O3 and Yb2O3. *Journal of Materials Processing Technology*, **2008**, 208, 415-423	3.3	72
110	Load Partitioning and Strain-Induced Martensite Formation during Tensile Loading of a Metastable Austenitic Stainless Steel. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 1039-1048	2.3	61
109	Stepwise transformation behavior of the strain-induced martensitic transformation in a metastable stainless steel. *Scripta Materialia*, **2007**, 56, 213-216	5.6	56
108	In situ small-angle x-ray scattering study of nanostructure evolution during decomposition of arc evaporated TiAlN coatings. *Applied Physics Letters*, **2009**, 94, 053114	3.4	52
107	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	8.4	47
106	Load partitioning between single bulk grains in a two-phase duplex stainless steel during tensile loading. *Acta Materialia*, **2010**, 58, 734-744	8.4	46
105	Direct Observation that Bainite can Grow Below MS. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2012**, 43, 4984-4988	2.3	44
104	The 475 °C embrittlement in Fe–20Cr and Fe–20CrX (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	5.3	43
103	Nanostructure evolution and mechanical property changes during aging of a super duplex stainless steel at 300 °C. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2015**, 647, 241-248	5.3	38
102	A phase-field and electron microscopy study of phase separation in Fe–Cr alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 534, 552-556	5.3	35
101	Synthesis and phase separation of (Ti,Zr)C. *Acta Materialia*, **2014**, 66, 209-218	8.4	34
100	Microstructural evolution and superplastic behavior of a fine-grained Mg–Gd alloy processed by constrained groove pressing. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 754, 390-399	5.3	33

99	On the three-dimensional structure of WC grains in cemented carbides. *Acta Materialia*, **2013**, 61, 4726-4733	8.4	33
98	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	8.1	30
97	A Transmission Electron Microscopy Study of Plate Martensite Formation in High-carbon Low Alloy Steels. *Journal of Materials Science and Technology*, **2013**, 29, 373-379	9.1	30
96	Micromechanics and microstructure evolution during in situ uniaxial tensile loading of TRIP-assisted duplex stainless steels. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2018**, 734, 281-290	5.3	29
95	Machine Learning to Predict the Martensite Start Temperature in Steels. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2019**, 50, 2081-2091	2.3	28
94	A phase-field study of the physical concepts of martensitic transformations in steels. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 538, 173-181	5.3	28
93	Initial clustering □a key factor for phase separation kinetics in Fe□r-based alloys. *Scripta Materialia* , **2014**, 75, 62-65	5.6	27
92	Exploring the relationship between the microstructure and strength of fresh and tempered martensite in a maraging stainless steel Fe□5Cr□Ni. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 745, 420-428	5.3	27
91	High-Temperature Confocal Laser Scanning Microscopy Studies of Ferrite Formation in Inclusion-Engineered Steels: A Review. *Jom*, **2018**, 70, 2283-2295	2.1	26
90	A high-resolution analytical scanning transmission electron microscopy study of the early stages of spinodal decomposition in binary Fe□r. *Materials Characterization*, **2015**, 109, 216-221	3.9	25
89	Self-organizing nanostructured lamellar (Ti,Zr)C □A superhard mixed carbide. *International Journal of Refractory Metals and Hard Materials*, **2015**, 51, 25-28	4.1	24
88	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	4.1	24
87	Microstructure, grain size distribution and grain shape in WC□o alloys sintered at different carbon activities. *International Journal of Refractory Metals and Hard Materials*, **2014**, 43, 205-211	4.1	24
86	Recent Developments of Crystallographic Analysis Methods in the Scanning Electron Microscope for Applications in Metallurgy. *Critical Reviews in Solid State and Materials Sciences*, **2018**, 43, 455-474	10.1	22
85	Spontaneous and Deformation-Induced Martensite in Austenitic Stainless Steels with Different Stability. *Steel Research International*, **2011**, 82, 337-345	1.6	22
84	Microstructure development in a high-nickel austenitic stainless steel using EBSD during in situ tensile deformation. *Materials Characterization*, **2018**, 135, 228-237	3.9	22
83	Heat treatment, microstructure and mechanical properties of a C□MnAl□ hot dip galvanizing TRIP steel. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2016**, 674, 151-157	5.3	21
82	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	2.3	21

81	Microstructure of Martensite in Fe□□r and its Implications for Modelling of Carbide Precipitation during Tempering. *ISIJ International*, **2014**, 54, 2649-2656	1.7	21
80	Comparing the deformation-induced martensitic transformation with the athermal martensitic transformation in Fe-Cr-Ni alloys. *Journal of Alloys and Compounds*, **2018**, 766, 131-139	5.7	21
79	The experimental phase diagram study of the binary polyols system erythritol-xylitol. *Solar Energy Materials and Solar Cells*, **2018**, 174, 248-262	6.4	20
78	Effect of Zn addition on dynamic recrystallization behavior of Mg-2Gd alloy during high-temperature deformation. *Journal of Alloys and Compounds*, **2019**, 806, 1200-1206	5.7	20
77	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	8.4	19
76	Investigation of Lath and Plate Martensite in a Carbon Steel. *Solid State Phenomena*, **2011**, 172-174, 61-66	6.4	19
75	Elastic strain evolution and □martensite formation in individual austenite grains during in situ loading of a metastable stainless steel. *Materials Letters*, **2008**, 62, 338-340	3.3	19
74	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	8.4	19
73	Microstructure, texture, and strain-hardening behavior of extruded Mg□d□n alloys. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2020**, 772, 138833	5.3	18
72	Combination of In Situ Microscopy and Calorimetry to Study Austenite Decomposition in Inclusion Engineered Steels. *Steel Research International*, **2016**, 87, 10-14	1.6	18
71	Martensite formation during incremental cooling of Fe-Cr-Ni alloys: An in-situ bulk X-ray study of the grain-averaged and single-grain behavior. *Scripta Materialia*, **2017**, 136, 124-127	5.6	17
70	Early stages of spinodal decomposition in Fe□r resolved by in-situ small-angle neutron scattering. *Applied Physics Letters*, **2015**, 106, 061911	3.4	17
69	Quantitative modeling and experimental verification of carbide precipitation in a martensitic Fe□.16wt%C□.0wt%Cr alloy. *Calphad: Computer Coupling of Phase Diagrams and Thermochemistry*, **2016**, 53, 39-48	1.9	17
68	Ferrite Formation Dynamics and Microstructure Due to Inclusion Engineering in Low-Alloy Steels by Ti2O3 and TiN Addition. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, **2016**, 47, 2133-2147	2.5	17
67	Precipitation of multiple carbides in martensitic CrMoV steels - experimental analysis and exploration of alloying strategy through thermodynamic calculations. *Materialia*, **2020**, 9, 100630	3.2	16
66	On the Symmetry Among the Diffusional Transformation Products of Austenite. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2011**, 42, 1558-1574	2.3	16
65	Nanostructure, microstructure and mechanical properties of duplex stainless steels 25Cr-7 Ni and 22Cr-5Ni (wt.%) aged at 325 □C. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2019**, 754, 512-520	5.3	14
64	Direct atom probe tomography observations of concentration fluctuations in Fe□r solid solution. *Scripta Materialia*, **2015**, 98, 13-15	5.6	14

63	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	4.3	14
62	Microstructure evolution during tempering of martensitic Fe□□r alloys at 700 □C. *Journal of Materials Science*, **2018**, 53, 6939-6950	4.3	12
61	Porosity and shape of airborne wear microparticles generated by sliding contact between a low-metallic friction material and a cast iron. *Journal of Aerosol Science*, **2017**, 113, 130-140	4.3	12
60	Dynamic Precipitation Behavior of Secondary M7C3 Carbides in Ti-alloyed High Chromium Cast Iron. *ISIJ International*, **2013**, 53, 1237-1244	1.7	12
59	Modelling of the Fraction of Martensite in Low-alloy Steels. *Materials Today: Proceedings*, **2015**, 2, S561-S564	1.4	11
58	A Microstructural Investigation of Athermal and Deformation-induced Martensite in Fe-Cr-Ni Alloys. *Materials Today: Proceedings*, **2015**, 2, S687-S690	1.4	11
57	Effect of Heat Treatment on Microstructure and Mechanical Properties of Ti-alloyed Hypereutectic High Chromium Cast Iron. *ISIJ International*, **2012**, 52, 2288-2294	1.7	11
56	Effect of Zn content on the microstructural stability and grain growth kinetics of fine-grained extruded Mg□d□Zn alloys. *Journal of Alloys and Compounds*, **2020**, 831, 154766	5.7	10
55	Effect of Solute Silicon on the Lattice Parameter of Ferrite in Ductile Irons. *ISIJ International*, **2014**, 54, 248-250	1.7	10
54	Reverse Martensitic Transformation and Resulting Microstructure in a Cold Rolled Metastable Austenitic Stainless Steel. *Steel Research International*, **2008**, 79, 433-439	1.6	10
53	Microstructure evolution during phase separation in Ti-Zr-C. *International Journal of Refractory Metals and Hard Materials*, **2016**, 61, 238-248	4.1	10
52	A comparative study of microstructure and magnetic properties of a NiFe cemented carbide: Influence of carbon content. *International Journal of Refractory Metals and Hard Materials*, **2019**, 80, 181-187	4.1	10
51	Langer□Schwartz□Kampmann□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	4.3	10
50	EBSD analysis of surface and bulk microstructure evolution during interrupted tensile testing of a Fe-19Cr-12Ni alloy. *Materials Characterization*, **2018**, 141, 8-18	3.9	9
49	Microstructure and superplasticity of Mg□Gd□Zn alloys processed by equal channel angular pressing. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 808, 140921	5.3	9
48	Tailoring the texture of an extruded Mg sheet through constrained groove pressing for achieving low mechanical anisotropy and high yield strength. *Scripta Materialia*, **2020**, 186, 253-258	5.6	8
47	Quantum rod-sensitized solar cells. *ChemSusChem*, **2011**, 4, 1741-4	8.3	8
46	Predicting strain-induced martensite in austenitic steels by combining physical modelling and machine learning. *Materials and Design*, **2021**, 197, 109199	8.1	8

45	Mechanical Behavior of Fresh and Tempered Martensite in a CrMoV-Alloyed Steel Explained by Microstructural Evolution and Strength Modeling. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2020**, 51, 5077-5087	2.3	7
44	A Thermodynamic-Based Model to Predict the Fraction of Martensite in Steels. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2016**, 47, 4404-4410	2.3	6
43	Experimental study of the surface of austenitic stainless steels. *Acta Materialia*, **2019**, 173, 34-43	8.4	5
42	Small-angle neutron scattering quantification of phase separation and the corresponding embrittlement of a super duplex stainless steel after long-term aging at 300C. *Materialia*, **2020**, 12, 100771	3.2	5
41	On coarsening of cementite during tempering of martensitic steels. *Materials Science and Technology*, **2020**, 36, 887-893	1.5	5
40	Effect of carbon content on the Curie temperature of WC-NiFe cemented carbides. *International Journal of Refractory Metals and Hard Materials*, **2019**, 78, 27-31	4.1	5
39	Influence of alloying elements on Ni distribution in PM steels. *Powder Metallurgy*, **2014**, 57, 111-118	1.9	5
38	Early stages of cementite precipitation during tempering of 1C1Cr martensitic steel. *Journal of Materials Science*, **2019**, 54, 9222-9234	4.3	4
37	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	4.1	4
36	In-Situ High-Energy X-ray Diffraction Study of Austenite Decomposition During Rapid Cooling and Isothermal Holding in Two HSLA Steels. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2021**, 52, 1812-1825	2.3	4
35	On the role of transmission electron microscopy for precipitation analysis in metallic materials. *Critical Reviews in Solid State and Materials Sciences*,1-27	10.1	4
34	Cu precipitation-mediated formation of reverted austenite during ageing of a 15 PH stainless steel. *Scripta Materialia*, **2021**, 202, 114007	5.6	4
33	Very-small angle neutron scattering study on grain coarsening inhibition by V-doping of WC-Co composites. *Scripta Materialia*, **2019**, 173, 106-109	5.6	3
32	Evaluating magnetic properties of composites from model alloys Application to alternative binder cemented carbides. *Scripta Materialia*, **2019**, 168, 96-99	5.6	3
31	Liquid Phase Sintering of (Ti,Zr)C with WC-Co. *Materials*, **2017**, 10,	3.5	3
30	Cu redistribution during sintering of Fe2Cu and Fe2Cu0.5C compacts. *Powder Metallurgy*, **2014**, 57, 373-379	1.9	3
29	Observations of copper clustering in a 25Cr-7Ni super duplex stainless steel during low-temperature aging under load. *Philosophical Magazine Letters*, **2012**, 1-8	1	3
28	Effect of Tempering on the Bainitic Microstructure Evolution Correlated with the Hardness in a Low-Alloy Medium-Carbon Steel. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2020**, 51, 6470-6481	2.3	3

27	Nuclear and magnetic small-angle neutron scattering in self-organizing nanostructured Fe1Cr alloys. *Materials Characterization*, **2020**, 164, 110347	3.9	2
26	Evolution of Residual Strains in Metastable Austenitic Stainless Steels and the Accompanying Strain Induced Martensitic Transformation. *Materials Science Forum*, **2006**, 524-525, 821-826	0.4	2
25	Residual Stress Evolution during Decomposition of Ti(1-x)Al(x)N Coatings Using High-Energy X-Rays. *Materials Science Forum*, **2006**, 524-525, 619-624	0.4	2
24	In Situ Bulk Observations and Ab Initio Calculations Revealing the Temperature Dependence of Stacking Fault Energy in FeCrNi Alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2021**, 52, 5357	2.3	2
23	Initial atmospheric corrosion studies of copper from macroscale to nanoscale in a simulated indoor atmospheric environment. *Corrosion Science*, **2021**, 195, 109995	6.8	2
22	On the Three-Dimensional Microstructure of Martensite in Carbon Steels **2012**, 19-24		2
21	Nanostructure in Fe0.65Cr0.35 close to the upper limit of the miscibility gap. *Scripta Materialia*, **2020**, 180, 62-65	5.6	2
20	Prediction of Influences of Co, Ni, and W Elements on Carbide Precipitation Behavior in FeCVCrMo Based High Speed Steels. *Steel Research International*, **2018**, 89, 1800172	1.6	2
19	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	2.3	1
18	Correlating temperature-dependent stacking fault energy and in-situ bulk deformation behavior for a metastable austenitic stainless steel. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2021**, 832, 142403	5.3	1
17	High-Resolution Microscopical Studies of Contact Killing Mechanisms on Copper-Based Surfaces. *ACS Applied Materials & Interfaces*, **2021**, 13, 49402-49413	9.5	1
16	3D Analysis of Phase Separation in Ferritic Stainless Steels **2012**, 221-226		1
15	Quantification of nano-scale interface structures to guide mechanistic modelling of WC grain coarsening inhibition in V-doped hard metals. *Materials and Design*, **2021**, 207, 109825	8.1	1
14	A transmission electron microscopy study of discontinuous precipitation in the high misfit system (Ti,Zr)C. *Materials Today Communications*, **2020**, 25, 101281	2.5	0
13	Effect of Si on bainitic transformation kinetics in steels explained by carbon partitioning, carbide formation, dislocation densities, and thermodynamic conditions. *Materials Characterization*, **2022**, 185, 111774	3.9	0
12	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*,1	2.3	0
11	An Experimental Assessment of the α-α′ Miscibility Gap in Fe-Cr. *Minerals, Metals and Materials Series*, **2017**, 711-718	0.3	0
10	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	2.3	0

9	Revealing the Unexpected Two Variant Pairing Shifts Due to Temperature Change in a Single Bainitic Medium Carbon Steel. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2021**, 52, 4546-4557	2.3	0
8	Continuum plasticity modelling of work hardening for precipitation-hardened martensitic steel guided by atom probe tomography. *Materials and Design*, **2022**, 215, 110463	8.1	0
7	Revealing the interdependence of microstructure evolution, micromechanics and macroscopic mechanical behavior of multi-phase medium Mn steels. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2022**, 839, 142857	5.3	0
6	Carbide Precipitation during Processing of Two Low-Alloyed Martensitic Tool Steels with 0.11 and 0.17 V/Mo Ratios Studied by Neutron Scattering, Electron Microscopy and Atom Probe. *Metals*, **2022**, 12, 758	2.3	0
5	Behaviour of master alloy during sintering of PM steels: redistribution and dimensional variations. *Powder Metallurgy*, **2015**, 58, 133-141	1.9	
4	Nonlinearity in mass spectrometry for quantitative multi-component gas analysis in reaction processes.. *Analytica Chimica Acta*, **2022**, 1194, 339412	6.6	
3	On the Three-Dimensional Microstructure of Martensite in Carbon Steels19-24		
2	3D Analysis of Phase Separation in Ferritic Stainless Steels221-226		
1	Effect of Cooling Rate after Solution Treatment on Subsequent Phase Separation Evolution in Super Duplex Stainless Steel 25Cr-7Ni (wt.%). *Metals*, **2022**, 12, 890	2.3	