Peter HedstrÃ¶m

List of Publications by Year
in descending order

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121 papers	3,063 citations	172207 29 h-index	205818 48 g-index
122 all docs	122 docs citations	122 times ranked	2320 citing authors

#	Article	IF	Citations
1	On the role of transmission electron microscopy for precipitation analysis in metallic materials. Critical Reviews in Solid State and Materials Sciences, 2022, 47, 388-414.	6.8	8
2	Initial atmospheric corrosion studies of copper from macroscale to nanoscale in a simulated indoor atmospheric environment. Corrosion Science, 2022, 195, 109995.	3.0	6
3	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
4	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, 2022, 832, 142403.	2.6	13
5	Nonlinearity in mass spectrometry for quantitative multi-component gas analysis in reaction processes. Analytica Chimica Acta, 2022, 1194, 339412.	2.6	1
6	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.	1.9	9
7	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
8	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.	2.6	5
9	Design, synthesis, structure, and stability of novel multi-principal element (Ti,Zr,Hf,W)C ceramic with a miscibility gap. Journal of the European Ceramic Society, 2022, 42, 4429-4435.	2.8	4
10	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.	1.0	4
11	A generic and extensible model for the martensite start temperature incorporating thermodynamic data mining and deep learning framework. Journal of Materials Science and Technology, 2022, 128, 31-43.	5.6	14
12	Effect of Cooling Rate after Solution Treatment on Subsequent Phase Separation Evolution in Super Duplex Stainless Steel 25Cr-7Ni (wt.%). Metals, 2022, 12, 890.	1.0	4
13	Early Martensitic Transformation in a 0.74Câ€“1.15Mnâ€“1.08Cr High Carbon Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 3034-3043.	1.1	4
14	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
15	Predicting strain-induced martensite in austenitic steels by combining physical modelling and machine learning. Materials and Design, 2021, 197, 109199.	3.3	19
16	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
17	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
18	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.	1.1	9

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19	Microstructure and superplasticity of Mgâ€“2Gdâ€“xZn alloys processed by equal channel angular pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 808, 140921.	2.6	26
20	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.	1.1	5
21	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.	3.3	5
22	Cu precipitation-mediated formation of reverted austenite during ageing of a 15â€“5 PH stainless steel. Scripta Materialia, 2021, 202, 114007.	2.6	26
23	Formation of Dislocations and Stacking Faults in Embedded Individual Grains during In Situ Tensile Loading of an Austenitic Stainless Steel. Materials, 2021, 14, 5919.	1.3	3
24	High-Resolution Microscopical Studies of Contact Killing Mechanisms on Copper-Based Surfaces. ACS Applied Materials & Interfaces, 2021, 13, 49402-49413.	4.0	22
25	In Situ Bulk Observations and Ab Initio Calculations Revealing the Temperature Dependence of Stacking Fault Energy in Feâ€“Crâ€“Ni Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 5357-5366.	1.1	7
26	Microstructure, texture, and strain-hardening behavior of extruded Mgâ€“Gdâ€“Zn alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138833.	2.6	32
27	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.	1.1	6
28	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.	1.1	22
29	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
30	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
31	Effect of Zn content on the microstructural stability and grain growth kinetics of fine-grained extruded Mgâ€“Gdâ€“Zn alloys. Journal of Alloys and Compounds, 2020, 831, 154766.	2.8	30
32	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.	2.6	18
33	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
34	On coarsening of cementite during tempering of martensitic steels. Materials Science and Technology, 2020, 36, 887-893.	0.8	8
35	Nuclear and magnetic small-angle neutron scattering in self-organizing nanostructured Fe1â€“Cr alloys. Materials Characterization, 2020, 164, 110347.	1.9	3
36	Nanostructure in Fe0.65Cr0.35 close to the upper limit of the miscibility gap. Scripta Materialia, 2020, 180, 62-65.	2.6	2

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37	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.	1.7	10
38	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.	2.8	34
39	Very-small angle neutron scattering study on grain coarsening inhibition by V-doping of WC-Co composites. Scripta Materialia, 2019, 173, 106-109.	2.6	4
40	Evaluating magnetic properties of composites from model alloys â€“ Application to alternative binder cemented carbides. Scripta Materialia, 2019, 168, 96-99.	2.6	5
41	Experimental study of the Î³-surface of austenitic stainless steels. Acta Materialia, 2019, 173, 34-43.	3.8	6
42	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
43	Microstructural evolution and superplastic behavior of a fine-grained Mgâ€“Gd alloy processed by constrained groove pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 390-399.	2.6	47
44	Early stages of cementite precipitation during tempering of 1Câ€“1Cr martensitic steel. Journal of Materials Science, 2019, 54, 9222-9234.	1.7	11
45	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
46	A comparative study of microstructure and magnetic properties of a Ni Fe cemented carbide: Influence of carbon content. International Journal of Refractory Metals and Hard Materials, 2019, 80, 181-187.	1.7	14
47	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
48	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
49	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
50	Microstructure evolution during tempering of martensitic Feâ€“Câ€“Cr alloys at 700ÂÂ°C. Journal of Materials Science, 2018, 53, 6939-6950.	1.7	15
51	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
52	EBSD analysis of surface and bulk microstructure evolution during interrupted tensile testing of a Fe-19Cr-12Ni alloy. Materials Characterization, 2018, 141, 8-18.	1.9	16
53	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.	6.8	36
54	The experimental phase diagram study of the binary polyols system erythritol-xylitol. Solar Energy Materials and Solar Cells, 2018, 174, 248-262.	3.0	27

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55	Microstructure development in a high-nickel austenitic stainless steel using EBSD during in situ tensile deformation. Materials Characterization, 2018, 135, 228-237.	1.9	37
56	Prediction of Influences of Co, Ni, and W Elements on Carbide Precipitation Behavior in Feâ€“Câ€“Vâ€“Crâ€“Mo Based High Speed Steels. Steel Research International, 2018, 89, 1800172.	1.0	3
57	High-Temperature Confocal Laser Scanning Microscopy Studies of Ferrite Formation in Inclusion-Engineered Steels: A Review. Jom, 2018, 70, 2283-2295.	0.9	46
58	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.	2.8	31
59	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.	2.6	48
60	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.	2.6	22
61	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.	1.1	150
62	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.	1.8	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.	1.7	17
64	Liquid Phase Sintering of (Ti,Zr)C with WC-Co. Materials, 2017, 10, 57.	1.3	4
65	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
66	An Experimental Assessment of the Î± + Î±â€™ Miscibility Gap in Fe-Cr. Minerals, Metals and Materials Series, 2017, , 711-718.	0.3	1
67	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.	1.0	25
68	Microstructure evolution during phase separation in Ti-Zr-C. International Journal of Refractory Metals and Hard Materials, 2016, 61, 238-248.	1.7	16
69	Combination of In Situ Microscopy and Calorimetry to Study Austenite Decomposition in Inclusion Engineered Steels. Steel Research International, 2016, 87, 10-14.	1.0	23
70	Heat treatment, microstructure and mechanical properties of a Câ€“Mnâ€“Alâ€“P hot dip galvanizing TRIP steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 674, 151-157.	2.6	25
71	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
72	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.	1.1	15

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73	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
74	Modelling of the Fraction of Martensite in Low-alloy Steels. Materials Today: Proceedings, 2015, 2, S561-S564.	0.9	13
75	A Microstructural Investigation of Athermal and Deformation-induced Martensite in Fe-Cr-Ni Alloys. Materials Today: Proceedings, 2015, 2, S687-S690.	0.9	15
76	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
77	Behaviour of master alloy during sintering of PM steels: redistribution and dimensional variations. Powder Metallurgy, 2015, 58, 133-141.	0.9	0
78	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
79	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
80	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
81	Direct atom probe tomography observations of concentration fluctuations in Feâ€“Cr solid solution. Scripta Materialia, 2015, 98, 13-15.	2.6	17
82	Effect of Solute Silicon on the Lattice Parameter of Ferrite in Ductile Irons. ISIJ International, 2014, 54, 248-250.	0.6	17
83	Cu redistribution during sintering of Feâ€“2Cu and Feâ€“2Cuâ€“0Â·5C compacts. Powder Metallurgy, 2014, 57, 373-379.	0.9	4
84	Initial clustering â€“ a key factor for phase separation kinetics in Feâ€“Cr-based alloys. Scripta Materialia, 2014, 75, 62-65.	2.6	30
85	Synthesis and phase separation of (Ti,Zr)C. Acta Materialia, 2014, 66, 209-218.	3.8	47
86	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
87	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
88	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
89	Influence of alloying elements on Ni distribution in PM steels. Powder Metallurgy, 2014, 57, 111-118.	0.9	7
90	On the three-dimensional structure of WC grains in cemented carbides. Acta Materialia, 2013, 61, 4726-4733.	3.8	42

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91	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
92	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.	5.6	40
93	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
94	Dynamic Precipitation Behavior of Secondary M7C3 Carbides in Ti-alloyed High Chromium Cast Iron. ISIJ International, 2013, 53, 1237-1244.	0.6	16
95	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
96	Effect of carbon content on variant pairing of martensite in Feâ€“C alloys. Acta Materialia, 2012, 60, 7265-7274.	3.8	161
97	Direct Observation that Bainite can Grow Below MS. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4984-4988.	1.1	53
98	Effect of Heat Treatment on Microstructure and Mechanical Properties of Ti-alloyed Hypereutectic High Chromium Cast Iron. ISIJ International, 2012, 52, 2288-2294.	0.6	19
99	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
100	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.	2.6	29
101	On the Three-Dimensional Microstructure of Martensite in Carbon Steels. , 2012, , 19-24.		2
102	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 2012, , 221-226.		2
103	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
104	On the Symmetry Among the Diffusional Transformation Products of Austenite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 1558-1574.	1.1	18
105	Spontaneous and Deformationâ€Induced Martensite in Austenitic Stainless Steels with Different Stability. Steel Research International, 2011, 82, 337-345.	1.0	32
106	Quantum Rodâ€Sensitized Solar Cells. ChemSusChem, 2011, 4, 1741-1744.	3.6	10
107	Load partitioning between single bulk grains in a two-phase duplex stainless steel during tensile loading. Acta Materialia, 2010, 58, 734-744.	3.8	49
108	In situ small-angle x-ray scattering study of nanostructure evolution during decomposition of arc evaporated TiAlN coatings. Applied Physics Letters, 2009, 94, .	1.5	59

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109	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.	1.1	71
110	Microwave assisted combustion synthesis of nanocrystalline yttria and its powder characteristics. Powder Technology, 2009, 191, 309-314.	2.1	92
111	Combustion synthesis of Y2O3 and Ybâ€“Y2O3. Journal of Materials Processing Technology, 2008, 208, 415-422.	3.1	82
112	Elastic strain evolution and Îµ-martensite formation in individual austenite grains during in situ loading of a metastable stainless steel. Materials Letters, 2008, 62, 338-340.	1.3	28
113	Reverse Martensitic Transformation and Resulting Microstructure in a Cold Rolled Metastable Austenitic Stainless Steel. Steel Research International, 2008, 79, 433-439.	1.0	13
114	Stepwise transformation behavior of the strain-induced martensitic transformation in a metastable stainless steel. Scripta Materialia, 2007, 56, 213-216.	2.6	72
115	Evolution of Residual Strains in Metastable Austenitic Stainless Steels and the Accompanying Strain Induced Martensitic Transformation. Materials Science Forum, 2006, 524-525, 821-826.	0.3	2
116	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.	0.3	2
117	Investigation of Lath and Plate Martensite in a Carbon Steel. Solid State Phenomena, 0, 172-174, 61-66.	0.3	23
118	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
119	On the Three-Dimensional Microstructure of Martensite in Carbon Steels. , 0, , 19-24.		0
120	3D Analysis of Phase Separation in Ferritic Stainless Steels. , 0, , 221-226.		0
121	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