Annika Borgenstam

List of Publications by Year
in descending order

78 papers	2,921 citations	172386 29 h-index	175177 52 g-index
81 all docs	81 docs citations	81 times ranked	1856 citing authors

#	Article	IF	Citations
1	DICTRA, a tool for simulation of diffusional transformations in alloys. Journal of Phase Equilibria and Diffusion, 2000, 21, 269-280.	0.3	634
2	Effect of carbon content on variant pairing of martensite in Feâ€“C alloys. Acta Materialia, 2012, 60, 7265-7274.	3.8	161
3	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
4	Three-dimensional phase-field modeling of martensitic microstructure evolution in steels. Acta Materialia, 2012, 60, 1538-1547.	3.8	119
5	Interphase precipitation in niobium-microalloyed steels. Acta Materialia, 2010, 58, 4783-4790.	3.8	101
6	Carbide grain growth in cemented carbides. Acta Materialia, 2011, 59, 1912-1923.	3.8	71
7	ALEMI: A Ten-Year History of Discussions of Alloying-Element Interactions with Migrating Interfaces. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3703-3718.	1.1	70
8	Massive transformation in the Feâ€“Ni system. Acta Materialia, 2000, 48, 2765-2775.	3.8	69
9	Metallographic evidence of carbon diffusion in the growth of bainite. Acta Materialia, 2009, 57, 3242-3252.	3.8	66
10	Thermodynamically Based Prediction of the Martensite Start Temperature for Commercial Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 3870-3879.	1.1	66
11	Modelling of solid solution strengthening in multicomponent alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 700, 301-311.	2.6	62
12	Three dimensional elasto-plastic phase field simulation of martensitic transformation in polycrystal. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 556, 221-232.	2.6	60
13	Driving force for f.c.c. â†’ b.c.c. martensites in Feî—¸X alloys. Acta Materialia, 1997, 45, 2079-2091.	3.8	53
14	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
15	Activation energy for isothermal martensite in ferrous alloys. Acta Materialia, 1997, 45, 651-662.	3.8	51
16	Stress-assisted martensitic transformations in steels: A 3-D phase-field study. Acta Materialia, 2013, 61, 2595-2606.	3.8	49
17	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
18	Influence of solidification structure on austenite to martensite transformation in additively manufactured hot-work tool steels. Acta Materialia, 2021, 215, 117044.	3.8	44

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19	On the three-dimensional structure of WC grains in cemented carbides. Acta Materialia, 2013, 61, 4726-4733.	3.8	42
20	Effect of external loading on the martensitic transformation â€“ A phase field study. Acta Materialia, 2013, 61, 7868-7880.	3.8	41
21	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
22	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
23	Diffusion modeling in cemented carbides: Solubility assessment for Co, Fe and Ni binder systems. International Journal of Refractory Metals and Hard Materials, 2017, 68, 41-48.	1.7	36
24	Abnormal grain growth in cemented carbides â€” Experiments and simulations. International Journal of Refractory Metals and Hard Materials, 2011, 29, 488-494.	1.7	34
25	Spontaneous and Deformationâ€Induced Martensite in Austenitic Stainless Steels with Different Stability. Steel Research International, 2011, 82, 337-345.	1.0	32
26	Multi-length scale modeling of martensitic transformations in stainless steels. Acta Materialia, 2012, 60, 6508-6517.	3.8	31
27	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
28	New beta-type Ti-Fe-Sn-Nb alloys with superior mechanical strength. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 705, 348-351.	2.6	31
29	Simulation of the Growth of Austenite from As-Quenched Martensite in Medium Mn Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 1053-1060.	1.1	31
30	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
31	Application of interrupted cooling experiments to study the mechanism of bainitic ferrite formation in steels. Acta Materialia, 2013, 61, 4512-4523.	3.8	30
32	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
33	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
34	Morphology of Proeutectoid Ferrite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 1425-1443.	1.1	27
35	Nucleation of isothermal martensite. Acta Materialia, 2000, 48, 2777-2785.	3.8	24
36	Alternative Ni-based cemented carbide binder â€“ Hardness characterization by nano-indentation and focused ion beam. International Journal of Refractory Metals and Hard Materials, 2018, 73, 204-209.	1.7	24

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37	Investigation of Lath and Plate Martensite in a Carbon Steel. Solid State Phenomena, 0, 172-174, 61-66.	0.3	23
38	Effect of martensite embryo potency on the martensitic transformations in steelsâ€"A 3D phase-field study. Journal of Alloys and Compounds, 2013, 577, S141-S146.	2.8	22
39	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
40	Critical temperature for growth of martensite. Acta Metallurgica Et Materialia, 1995, 43, 945-954.	1.9	20
41	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
42	Ti-Fe-Sn-Nb hypoeutectic alloys with superb yield strength and significant strain-hardening. Scripta Materialia, 2017, 135, 59-62.	2.6	16
43	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
44	Critical Driving Forces for Formation of Bainite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4509-4520.	1.1	16
45	A Microstructural Investigation of Athermal and Deformation-induced Martensite in Fe-Cr-Ni Alloys. Materials Today: Proceedings, 2015, 2, S687-S690.	0.9	15
46	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
47	Inverse Saltykov analysis for particle-size distributions and their time evolution. Acta Materialia, 2011, 59, 874-882.	3.8	14
48	Morphology of Upper and Lower Bainite with 0.7 Mass Pct C. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4006-4024.	1.1	14
49	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
50	Modelling of the Fraction of Martensite in Low-alloy Steels. Materials Today: Proceedings, 2015, 2, S561-S564.	0.9	13
51	Trans-interface diffusivity in the Feâ€"Ni system. Scripta Materialia, 2007, 56, 61-64.	2.6	12
52	Second Stage of Upper Bainite in a 0.3 Mass Pct C Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 1444-1458.	1.1	12
53	C-Curves for Lengthening of WidmanstÃtten and Bainitic Ferrite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 3997-4005.	1.1	12
54	A new hardness model for materials design in cemented carbides. International Journal of Refractory Metals and Hard Materials, 2018, 75, 94-100.	1.7	12

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55	Modelling of prismatic grain growth in cemented carbides. International Journal of Refractory Metals and Hard Materials, 2019, 78, 310-319.	1.7	11
56	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
57	ICME guided property design: Room temperature hardness in cemented carbides. Materials and Design, 2019, 161, 35-43.	3.3	9
58	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
59	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
60	A New Class of Materials for Magneto-Optical Applications: Transparent Amorphous Thin Films of Feâ€“Bâ€“Nb and Feâ€“Bâ€“Nbâ€“Y Metallic Glassy Alloys. IEEE Transactions on Magnetics, 2014, 50, 1-5.	1.2	8
61	Diffusion-Controlled Lengthening Rates of Bainitic Ferrite a Part of the Steel Genome. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 2613-2618.	1.1	8
62	Influence of nitrogen Gas pressure on the miscibility Gap in the Tiâ€“Zr carbonitride system. International Journal of Refractory Metals and Hard Materials, 2012, 32, 11-15.	1.7	7
63	Modeling C-Curves for the Growth Rate of WidmanstÃtten and Bainitic Ferrite in Fe-C Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 19-25.	1.1	7
64	Bainite in the light of rapid continuous cooling information. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1996, 27, 1501-1512.	1.1	6
65	Martensite formation in stainless steels under transient loading. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 608, 101-105.	2.6	6
66	Use of Fe-C Information as Reference for Alloying Effects on BS. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 4531-4540.	1.1	6
67	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
68	Evaluating magnetic properties of composites from model alloys â€“ Application to alternative binder cemented carbides. Scripta Materialia, 2019, 168, 96-99.	2.6	5
69	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
70	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
71	Widening of Laths in Bainite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 5294-5303.	1.1	3
72	3D Phase Field Modeling of Martensitic Microstructure Evolution in Steels. Solid State Phenomena, 0, 172-174, 1066-1071.	0.3	2

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73	Eutectoids with cementite as the major constituent in Feâ€"Câ€"M alloys. Acta Materialia, 2016, 103, 280-289.	3.8	2
74	On the Three-Dimensional Microstructure of Martensite in Carbon Steels. , 2012, , 19-24.		2
75	Observations of Surface Relief of Proeutectoid WidmanstÃtten Cementite Plates in a Hypereutectoid Carbon Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 4143-4149.	1.1	1
76	Indentation behavior of highly confined elasto-plastic materials. International Journal of Solids and Structures, 2020, 193-194, 69-78.	1.3	0
77	Modeling confined ductile fracture â€" A void-growth and coalescence approach. International Journal of Solids and Structures, 2020, 202, 454-462.	1.3	0
78	On the Three-Dimensional Microstructure of Martensite in Carbon Steels. , 0, , 19-24.		0