

# Mattias Thuvander

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

120  
papers

2,166  
citations

27  
h-index

42  
g-index

126  
ext. papers

2,521  
ext. citations

3.3  
avg, IF

5.03  
L-index

#	Paper	IF	Citations
120	Microstructures and hardness of as-quenched martensites (0.10.5%C). <i>Acta Materialia</i> , <b>2011</b> , 59, 5845-5858	8.4	230
119	Quantitative atom probe analysis of carbides. <i>Ultramicroscopy</i> , <b>2011</b> , 111, 604-8	3.1	124
118	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
117	Thermal stability of electrodeposited nanocrystalline nickel and iron-nickel alloys. <i>Materials Science and Technology</i> , <b>2001</b> , 17, 961-970	1.5	78
116	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
115	Microstructure, Solidification Texture, and Thermal Stability of 316 L Stainless Steel Manufactured by Laser Powder Bed Fusion. <i>Metals</i> , <b>2018</b> , 8, 643	2.3	70
114	Microstructural stability of Fe-Cr-Al alloys at 450-550 °C. <i>Journal of Nuclear Materials</i> , <b>2015</b> , 457, 291-297	3.3	57
113	Spinodal decomposition of Ti-0.33Al-0.67N thin films studied by atom probe tomography. <i>Thin Solid Films</i> , <b>2012</b> , 520, 4362-4368	2.2	57
112	Redistribution of alloying elements in Zircaloy-2 after in-reactor exposure. <i>Journal of Nuclear Materials</i> , <b>2014</b> , 454, 178-185	3.3	55
111	Hydrogen analysis in APT: methods to control adsorption and dissociation of H <sub>2</sub> . <i>Ultramicroscopy</i> , <b>2013</b> , 132, 285-9	3.1	47
110	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
109	The 475 °C embrittlement in Fe-20Cr and Fe-20Cr-X (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
108	Direct observation of hydrogen and deuterium in oxide grain boundaries in corroded Zirconium alloys. <i>Corrosion Science</i> , <b>2015</b> , 90, 1-4	6.8	42
107	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
106	Atomically resolved tissue integration. <i>Nano Letters</i> , <b>2014</b> , 14, 4220-3	11.5	38
105	Barrier oxide chemistry and hydrogen pick-up mechanisms in zirconium alloys. <i>Corrosion Science</i> , <b>2016</b> , 102, 490-502	6.8	37
104	Atom Probe Tomography of Oxide Scales. <i>Oxidation of Metals</i> , <b>2013</b> , 79, 227-238	1.6	37

103	Enrichment of Fe and Ni at metal and oxide grain boundaries in corroded Zircaloy-2. <i>Corrosion Science</i> , <b>2012</b> , 65, 10-12	6.8	37
102	Martensitic transformations in Ti-6Al-4V (ELI) alloy manufactured by 3D Printing. <i>Materials Characterization</i> , <b>2018</b> , 146, 101-112	3.9	37
101	Quantitative APT analysis of Ti(C,N). <i>Ultramicroscopy</i> , <b>2011</b> , 111, 609-14	3.1	35
100	The bone-implant interface of dental implants in humans on the atomic scale. <i>Acta Biomaterialia</i> , <b>2017</b> , 48, 445-450	10.8	33
99	Microstructure of a boron containing high purity nickel-based alloy 690. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2000</b> , 281, 96-103	5.3	31
98	Three-dimensional analysis of coalesced bainite using focused ion beam tomography. <i>Materials Characterization</i> , <b>2008</b> , 59, 877-882	3.9	30
97	Electron backscattering diffraction study of coalesced bainite in high strength steel weld metals. <i>Materials Science and Technology</i> , <b>2008</b> , 24, 1183-1188	1.5	30
96	Evolution of precipitation in reactor pressure vessel steel welds under neutron irradiation. <i>Journal of Nuclear Materials</i> , <b>2017</b> , 488, 222-230	3.3	29
95	Reduction of multiple hits in atom probe tomography. <i>Ultramicroscopy</i> , <b>2013</b> , 132, 81-5	3.1	29
94	APFIM Studies of Grain and Phase Boundaries. <i>Materials Characterization</i> , <b>2000</b> , 44, 87-100	3.9	28
93	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
92	Atomic-scale investigation of carbon atom migration in surface induced white layers in high-carbon medium chromium (AISI 52100) bearing steel. <i>Acta Materialia</i> , <b>2017</b> , 130, 155-163	8.4	22
91	THERMAL STABILITY OF ELECTRODEPOSITED NANOCRYSTALLINE NICKEL. <i>Surface Engineering</i> , <b>2002</b> , 18, 151-156	2.6	22
90	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
89	Atom probe tomography investigation of lath boundary segregation and precipitation in a maraging stainless steel. <i>Ultramicroscopy</i> , <b>2013</b> , 132, 265-70	3.1	21
88	Tin clustering and precipitation in the oxide during autoclave corrosion of Zircaloy-2. <i>Journal of Nuclear Materials</i> , <b>2015</b> , 456, 409-414	3.3	20
87	A statistical method to detect ordering and phase separation by APFIM. <i>Ultramicroscopy</i> , <b>1998</b> , 73, 279-285	3.5	19
86	Grain boundary segregation during heat treatment at 600°C in a model Alloy 600. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1999</b> , 270, 38-43	5.3	19

85	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
84	Atom Probe Tomography Interlaboratory Study on Clustering Analysis in Experimental Data Using the Maximum Separation Distance Approach. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 356-366	0.5	18
83	Early stages of spinodal decomposition in FeCr resolved by in-situ small-angle neutron scattering. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 061911	3.4	17
82	Methods of quantitative matrix analysis of Zircaloy-2. <i>Ultramicroscopy</i> , <b>2011</b> , 111, 711-4	3.1	17
81	Insight into hydrothermal aging effect on Pd sites over Pd/LTA and Pd/SSZ-13 as PNA and CO oxidation monolith catalysts. <i>Applied Catalysis B: Environmental</i> , <b>2020</b> , 278, 119315	21.8	16
80	Precipitation process of martensitic PH stainless steel Nanoflex. <i>Materials Science and Technology</i> , <b>2012</b> , 28, 695-701	1.5	15
79	Blind deconvolution of time-of-flight mass spectra from atom probe tomography. <i>Ultramicroscopy</i> , <b>2013</b> , 132, 60-4	3.1	15
78	Atom probe analysis of carbonitride grains in (Ti, W, Ta, Mo)(C, N) () cermets with different carbon content. <i>Applied Surface Science</i> , <b>1996</b> , 94-95, 351-355	6.7	15
77	Direct atom probe tomography observations of concentration fluctuations in FeCr solid solution. <i>Scripta Materialia</i> , <b>2015</b> , 98, 13-15	5.6	14
76	Cluster formation in in-service thermally aged pressurizer welds. <i>Journal of Nuclear Materials</i> , <b>2018</b> , 504, 23-28	3.3	14
75	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
74	Atom probe tomography of interfaces in ceramic films and oxide scales. <i>MRS Bulletin</i> , <b>2016</b> , 41, 35-39	3.2	14
73	Three-dimensional atomic scale analysis of nanostructured materials. <i>Micron</i> , <b>2001</b> , 32, 731-739	2.3	12
72	Microstructural evolution of Fe 22%Cr model alloy under thermal ageing and ion irradiation conditions studied by atom probe tomography. <i>Journal of Nuclear Materials</i> , <b>2016</b> , 477, 172-177	3.3	12
71	On the Analysis of Clustering in an Irradiated Low Alloy Reactor Pressure Vessel Steel Weld. <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 376-384	0.5	11
70	Spinodal Decomposition in Functionally Graded Super Duplex Stainless Steel and Weld Metal. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2018</b> , 49, 2803-2816 <sup>2,3</sup>	2.3	11
69	Effect of Ti on Evolution of Microstructure and Hardness of Martensitic FeMn Steel during Tempering. <i>ISIJ International</i> , <b>2014</b> , 54, 2890-2899	1.7	11
68	A Round Robin Experiment: Analysis of Solute Clustering from Atom Probe Tomography Data.. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 666-667	0.5	11

67	Microstructural Characterization of Sulfurization Effects in Cu(In,Ga)Se <sub>2</sub> Thin Film Solar Cells. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 532-538	0.5	9
66	Self-organized nanostructuring in Zr <sub>0.69</sub> Al <sub>0.31</sub> N thin films studied by atom probe tomography. <i>Thin Solid Films</i> , <b>2016</b> , 615, 233-238	2.2	9
65	Evolution of grain boundary chemistry in a Ni <sub>71</sub> Cr <sub>9</sub> Fe model alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1998</b> , 250, 93-98	5.3	9
64	Effect of welding procedure on texture and strength of nickel based weld metal. <i>Science and Technology of Welding and Joining</i> , <b>2007</b> , 12, 549-555	3.7	9
63	Structure and chemistry of grain boundaries in Ni <sub>76</sub> Cr <sub>9</sub> Fe model materials. <i>Applied Surface Science</i> , <b>1995</b> , 87-88, 251-256	6.7	9
62	Grain boundary precipitation and segregation in Ni <sub>76</sub> Cr <sub>9</sub> Fe model materials. <i>Applied Surface Science</i> , <b>1996</b> , 94-95, 343-350	6.7	9
61	Detailed Analysis of the Microstructure of the Metal/Oxide Interface Region in Zircaloy-2 after Autoclave Corrosion Testing. <i>Journal of ASTM International</i> , <b>2011</b> , 8, 102956		9
60	Improving Compositional Accuracy in APT Analysis of Carbides Using a Decreased Detection Efficiency. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 454-461	0.5	8
59	An APT investigation of an amorphous Cr-B-C thin film. <i>Ultramicroscopy</i> , <b>2015</b> , 159 Pt 2, 217-22	3.1	8
58	Direct observation of doping incorporation pathways in self-catalytic GaMnAs nanowires. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 054302	2.5	8
57	Oxidation Mechanism in Zircaloy-2 The Effect of SPP Size Distribution <b>2015</b> , 373-403		8
56	Atom probe tomography field evaporation characteristics and compositional corrections of ZrB <sub>2</sub> . <i>Materials Characterization</i> , <b>2019</b> , 156, 109871	3.9	7
55	Microstructural Characterisation of As-Deposited and Reheated Weld Metal [High Strength Steel Weld Metals. <i>Welding in the World, Le Soudage Dans Le Monde</i> , <b>2007</b> , 51, 44-49	1.9	7
54	Tool wear mechanisms of PcBN in machining Inconel 718: Analysis across multiple length scale. <i>CIRP Annals - Manufacturing Technology</i> , <b>2021</b> , 70, 73-78	4.9	7
53	Alkali Dispersion in (Ag,Cu)(In,Ga)Se Thin Film Solar Cells-Insight from Theory and Experiment. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 7188-7199	9.5	7
52	Corrosion of pre-oxidized nickel alloy X-750 in simulated BWR environment. <i>Journal of Nuclear Materials</i> , <b>2017</b> , 486, 350-360	3.3	6
51	Modelling the Evolution of Multiple Hardening Mechanisms during Tempering of Fe <sub>0.9</sub> Mn <sub>0.1</sub> i Martensite. <i>ISIJ International</i> , <b>2015</b> , 55, 884-893	1.7	6
50	Influence of heat treatment on grain boundary microstructure in a Ni <sub>76</sub> Cr <sub>9</sub> Fe <sub>0.022</sub> C model material. <i>Materials Science and Technology</i> , <b>1999</b> , 15, 237-245	1.5	6

49	Electric-field-controlled reversible order-disorder switching of a metal tip surface. <i>Physical Review Materials</i> , <b>2018</b> , 2,	3.2	6
48	Characterization of as-deposited cold sprayed Cr-coating on Optimized ZIRLO <sup>®</sup> claddings. <i>Journal of Nuclear Materials</i> , <b>2021</b> , 549, 152892	3.3	6
47	A Comparison between Ultra-high-strength and Conventional High-strength Fastener Steels: Mechanical Properties at Elevated Temperature and Microstructural Mechanisms. <i>ISIJ International</i> , <b>2016</b> , 56, 1874-1883	1.7	6
46	Elemental Distribution in CrNbTaTiW-C High Entropy Alloy Thin Films. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 489-500	0.5	6
45	Atom probe tomography of a Ti-Si-Al-C-N coating grown on a cemented carbide substrate. <i>Ultramicroscopy</i> , <b>2015</b> , 159 Pt 2, 308-13	3.1	5
44	Influence of heat treatment under hot isostatic pressing (HIP) on microstructure of intermetallic-reinforced tool steel manufactured by laser powder bed fusion. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 772, 138699	5.3	5
43	The potential of spinodal ferrite decomposition for increasing the very high cycle fatigue strength of duplex stainless steel. <i>International Journal of Fatigue</i> , <b>2016</b> , 93, 363-371	5	5
42	Oxide evolution on Alloy X-750 in simulated BWR environment. <i>Journal of Nuclear Materials</i> , <b>2016</b> , 482, 19-27	3.3	5
41	An atom probe tomography study of the chemistry of radiation-induced dislocation loops in Zircaloy-2 exposed to boiling water reactor operation. <i>Journal of Nuclear Materials</i> , <b>2021</b> , 550, 152923	3.3	5
40	Resolving mass spectral overlaps in atom probe tomography by isotopic substitutions - case of TiSiN. <i>Ultramicroscopy</i> , <b>2018</b> , 184, 51-60	3.1	4
39	Controlling InGaZnO thin films transport properties through density changes. <i>Thin Solid Films</i> , <b>2016</b> , 608, 57-61	2.2	4
38	On the Accuracy of Compositional Quantification for Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 642-643	0.5	3
37	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
36	Detailed Analysis of the Microstructure of the Metal/Oxide Interface Region in Zircaloy-2 after Autoclave Corrosion Testing <b>2011</b> , 595-619		3
35	On the Use of Density-Based Algorithms for the Analysis of Solute Clustering in Atom Probe Tomography Data. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 2097-2113	0.3	3
34	Effect of Tempering on the Bainitic Microstructure Evolution Correlated with the Hardness in a Low-Alloy Medium-Carbon Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2020</b> , 51, 6470-6481	2.3	3
33	Electric Field-Induced Surface Melting of Gold Observed In Situ at Room Temperature and at Atomic Resolution Using TEM. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 1830-1831	0.5	2
32	Detailed Analysis of the Microstructure of the Metal/Oxide Interface Region in Zircaloy-2 after Autoclave Corrosion Testing <b>2012</b> , 595-619		2

31	Complete precipitate dissolution during adiabatic shear localisation in a Ni-based superalloy. <i>Philosophical Magazine Letters</i> , <b>2020</b> , 100, 561-570	1	2
30	Nanoscale phase separations in as-fabricated thick super duplex stainless steels. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 12475-12485	4.3	2
29	Multiple Influences of Molybdenum on the Precipitation Process in a Martensitic PH Stainless Steel. <i>Metals</i> , <b>2019</b> , 9, 1118	2.3	2
28	Dynamic Impurity Redistributions in Kesterite Absorbers. <i>Physica Status Solidi (B): Basic Research</i> , <b>2020</b> , 257, 2000062	1.3	2
27	Towards quantitative three-dimensional characterisation of buried InAs quantum dots. <i>Journal of Physics: Conference Series</i> , <b>2011</b> , 326, 012046	0.3	1
26	Nanoscale chemistry of Zircaloy-2 exposed to three and nine annual cycles of boiling water reactor operation [an atom probe tomography study]. <i>Journal of Nuclear Materials</i> , <b>2022</b> , 561, 153537	3.3	1
25	Toward a Comprehensive Mechanistic Understanding of Hydrogen Uptake in Zirconium Alloys by Combining Atom Probe Analysis With Electronic Structure Calculations <b>2015</b> , 515-539		1
24	Detailed Analysis of the Microstructure of the Metal/Oxide Interface Region in Zircaloy-2 after Autoclave Corrosion Testing <b>2012</b> , 595-619		1
23	The Effect of Iron on Dislocation Evolution in Model and Commercial Zirconium Alloys <b>2018</b> , 796-822		1
22	3D Analysis of Phase Separation in Ferritic Stainless Steels <b>2012</b> , 221-226		1
21	Integrated effect of thermal ageing and low flux irradiation on microstructural evolution of the ferrite of welded austenitic stainless steels. <i>Journal of Nuclear Materials</i> , <b>2021</b> , 551, 152967	3.3	1
20	Analysis of thermal embrittlement of a low alloy steel weldment using fracture toughness and microstructural investigations. <i>Engineering Fracture Mechanics</i> , <b>2022</b> , 262, 108248	4.2	0
19	Cold sprayed Cr-coating on Optimized ZIRLO <sup>®</sup> claddings: the Cr/Zr interface and its microstructural and chemical evolution after autoclave corrosion testing. <i>Journal of Nuclear Materials</i> , <b>2022</b> , 560, 153505	3.3	0
18	Post-Irradiation Annealing of High Flux Irradiated and Surveillance Material Reactor Pressure Vessel Weld Metal. <i>Journal of Nuclear Materials</i> , <b>2022</b> , 562, 153586	3.3	0
17	Precipitation kinetics of Cu-rich particles in super duplex stainless steels. <i>Journal of Materials Research and Technology</i> , <b>2021</b> , 15, 3951-3964	5.5	0
16	Early Precipitation Stages of Sigma Phase in Alloy 28 Studied with Scanning Electron Microscopy and Atom Probe Tomography. <i>ISIJ International</i> , <b>2021</b> , 61, 881-887	1.7	0
15	Precipitation of $\sigma$ during cooling of nickel-base superalloy Haynes 282. <i>Philosophical Magazine Letters</i> , <b>2021</b> , 101, 30-39	1	0
14	Fe and Cr phase separation in super and hyper duplex stainless steel plates and welds after very short aging times. <i>Materials and Design</i> , <b>2021</b> , 210, 110055	8.1	0

13	Carbide Precipitation in a Low Alloyed Steel during Aging Studied by Atom Probe Tomography and Thermodynamic Modeling. <i>Metals</i> , <b>2021</b> , 11, 2009	2.3	0
12	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. <i>Metals</i> , <b>2022</b> , 12, 758	2.3	0
11	Atom Probe Tomography of Oxidised Grain Boundaries in Highly Irradiated SS316. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 2532-2533	0.5	
10	Apfim Investigation of Segregation in a Nickel Base Alloy. <i>Microscopy and Microanalysis</i> , <b>1998</b> , 4, 118-119	0.5	
9	On APFIM of Grain Boundaries in a Nickel Base Superalloy. <i>European Physical Journal Special Topics</i> , <b>1996</b> , 06, C5-247-C5-252		
8	On the Effect of Preoxidation of Nickel Alloy X-750. <i>Minerals, Metals and Materials Series</i> , <b>2018</b> , 407-416	0.3	
7	Microstructural Evolution of Welded Stainless Steels on Integrated Effect of Thermal Aging and Low Flux Irradiation. <i>Minerals, Metals and Materials Series</i> , <b>2018</b> , 703-710	0.3	
6	On the Use of Density-Based Algorithms for the Analysis of Solute Clustering in Atom Probe Tomography Data. <i>Minerals, Metals and Materials Series</i> , <b>2018</b> , 881-897	0.3	
5	Microstructural Evolution of Welded Stainless Steels on Integrated Effect of Thermal Aging and Low Flux Irradiation. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 1919-1926	0.3	
4	On the Effect of Preoxidation of Nickel Alloy X-750. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 1623-1632	0.3	
3	3D Analysis of Phase Separation in Ferritic Stainless Steels	221-226	
2	The Nanostructure of the Oxide Formed on Fe-10Cr-4Al Exposed in Liquid Pb. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 1-14	0.5	
1	EBSD Analysis of Blocky Structures in Hardened and Tempered Microstructures of a 5 wt.% Cr Cold Work Tool Steel. <i>Metallography, Microstructure, and Analysis</i> , <b>2021</b> , 10, 862-875	1.1	