Erik Mejdal Lauridsen

List of Publications by Year
in descending order

75 papers	3,473 citations	159585 30 h-index	138484 58 g-index
75 all docs	75 docs citations	75 times ranked	2140 citing authors

#	Article	IF	Citations
1	Grain Nucleation and Growth During Phase Transformations. Science, 2002, 298, 1003-1005.	12.6	339
2	Three-dimensional maps of grain boundaries and the stress state of individual grains in polycrystals and powders. Journal of Applied Crystallography, 2001, 34, 751-756.	4.5	320
3	Three-dimensional grain mapping by x-ray diffraction contrast tomography and the use of Friedel pairs in diffraction data analysis. Review of Scientific Instruments, 2009, 80, 033905.	1.3	223
4	X-ray diffraction contrast tomography: a novel technique for three-dimensional grain mapping of polycrystals. I. Direct beam case. Journal of Applied Crystallography, 2008, 41, 302-309.	4.5	221
5	3-D growth of a short fatigue crack within a polycrystalline microstructure studied using combined diffraction and phase-contrast X-ray tomography. Acta Materialia, 2011, 59, 590-601.	7.9	166
6	Tracking: a method for structural characterization of grains in powders or polycrystals. Journal of Applied Crystallography, 2001, 34, 744-750.	4.5	165
7	New opportunities for 3D materials science of polycrystalline materials at the micrometre lengthscale by combined use of X-ray diffraction and X-ray imaging. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 524, 69-76.	5.6	164
8	Non-destructive mapping of grain orientations in 3D by laboratory X-ray microscopy. Scientific Reports, 2015, 5, 14665.	3.3	114
9	Recrystallization kinetics of individual bulk grains in 90% cold-rolled aluminium. Acta Materialia, 2003, 51, 4423-4435.	7.9	104
10	Kinetics of individual grains during recrystallization. Scripta Materialia, 2000, 43, 561-566.	5.2	91
11	X-ray microscopy in four dimensions. Materials Today, 2006, 9, 18-25.	14.2	81
12	Direct observation of 3-D grain growth in Alâ€“0.1% Mn. Scripta Materialia, 2008, 59, 491-494.	5.2	79
13	Non-destructive characterization of recrystallization kinetics using three-dimensional X-ray diffraction microscopy. Scripta Materialia, 2006, 55, 51-56.	5.2	59
14	Microstructural evolution during sintering of copper particles studied by laboratory diffraction contrast tomography (LabDCT). Scientific Reports, 2017, 7, 5251.	3.3	58
15	On the Use of Laguerre Tessellations for Representations of 3D Grain Structures. Advanced Engineering Materials, 2011, 13, 165-170.	3.5	54
16	3D grain reconstruction from laboratory diffraction contrast tomography. Journal of Applied Crystallography, 2019, 52, 643-651.	4.5	50
17	Grain growth in four dimensions: A comparison between simulation and experiment. Acta Materialia, 2014, 78, 125-134.	7.9	49
18	Solid-state phase transformations involving solute partitioning: modeling and measuring on the level of individual grains. Acta Materialia, 2004, 52, 4757-4766.	7.9	46

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19	The evolution of interfacial morphology during coarsening: A comparison between 4D experiments and phase-field simulations. Scripta Materialia, 2011, 64, 394-397.	5.2	46
20	In situ observations of microscale damage evolution in unidirectional natural fibre composites. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1639-1649.	7.6	46
21	Non-destructive mapping of grains in three dimensions. Scripta Materialia, 2003, 49, 1093-1096.	5.2	44
22	3D in situ observations of glass fibre/matrix interfacial debonding. Composites Part A: Applied Science and Manufacturing, 2013, 55, 63-73.	7.6	43
23	High-resolution three-dimensional mapping of individual grains in polycrystals by topotomography. Journal of Applied Crystallography, 2007, 40, 905-911.	4.5	42
24	Characterization of polycrystalline materials using synchrotron X-ray imaging and diffraction techniques. Jom, 2010, 62, 22-28.	1.9	42
25	Three-dimensional grain structure of sintered bulk strontium titanate from X-ray diffraction contrast tomography. Scripta Materialia, 2012, 66, 1-4.	5.2	39
26	Universality and self-similarity in pinch-off of rods by bulk diffusion. Nature Physics, 2010, 6, 796-800.	16.7	38
27	A three-dimensional X-ray diffraction microscope for deformation studies of polycrystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 179-181.	5.6	37
28	Diffractive small angle X-ray scattering imaging for anisotropic structures. Nature Communications, 2019, 10, 5130.	12.8	36
29	Phase transformations in steel studied by 3DXRD microscopy. Nuclear Instruments & Methods in Physics Research B, 2006, 246, 194-200.	1.4	32
30	Grain boundary wetting correlated to the grain boundary properties: A laboratory-based multimodal X-ray tomography investigation. Scripta Materialia, 2019, 163, 77-81.	5.2	32
31	Characterization of metals in four dimensions. Materials Research Letters, 2020, 8, 462-476.	8.7	32
32	Direct observation of subgrain evolution during recovery of cold-rolled aluminium. Scripta Materialia, 2004, 50, 477-481.	5.2	31
33	In situ measurements of growth rates and grain-averaged activation energies of individual grains during recrystallization of 50% cold-rolled aluminium. Scripta Materialia, 2011, 64, 1003-1006.	5.2	30
34	Two-Dimensional and Three-Dimensional Analyses of Sigma Precipitates and Porosity in a Superaustenitic Stainless Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 2721-2726.	2.2	29
35	Pinch-off of rods by bulk diffusion. Acta Materialia, 2011, 59, 4922-4932.	7.9	28
36	Nondestructive approaches for 3-D materials characterization. Jom, 2006, 58, 40-44.	1.9	25

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37	Non-destructive analysis of micro texture and grain boundary character from X-ray diffraction contrast tomography. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 291-296.	1.4	25
38	Application of high-energy synchrotron radiation for texture studies. Journal of Applied Crystallography, 2000, 33, 364-371.	4.5	24
39	An algebraic algorithm for generation of three-dimensional grain maps based on diffraction with a wide beam of hard X-rays. Journal of Applied Crystallography, 2004, 37, 96-102.	4.5	22
40	A Forward Modeling Approach to High-Reliability Grain Mapping by Laboratory Diffraction Contrast Tomography (LabDCT). Jom, 2019, 71, 2695-2704.	1.9	22
41	In situ observations on the austenite stability in TRIPâ€steel during tensile testing. Steel Research = Archiv FÃ¼r Das EisenhÃ¼ttenwesen, 2002, 73, 236-241.	0.3	21
42	In situ time-of-flight neutron imaging of NiOâ€“YSZ anode support reduction under influence of stress. Journal of Applied Crystallography, 2016, 49, 1674-1681.	4.5	21
43	Integrated imaging in three dimensions: Providing a new lens on grain boundaries, particles, and their correlations in polycrystalline silicon. Acta Materialia, 2018, 148, 225-234.	7.9	20
44	Non-destructive Characterization of Polycrystalline Materials in 3D by Laboratory Diffraction Contrast Tomography. Integrating Materials and Manufacturing Innovation, 2019, 8, 217-225.	2.6	19
45	Three-dimensional simulations of microstructural evolution in polycrystalline dual-phase materials with constant volume fractions. Acta Materialia, 2013, 61, 1220-1228.	7.9	18
46	Effect of stress on NiO reduction in solid oxide fuel cells: a new application of energy-resolved neutron imaging. Journal of Applied Crystallography, 2015, 48, 401-408.	4.5	18
47	Reply to the discussion by Aaronson et al. to â€œGrain nucleation and growth during phase transformationsâ€• by S.E. Offerman et al., Science, 298, 1003 (November 1, 2002). Scripta Materialia, 2004, 51, 937-941.	5.2	17
48	Coupling between creep and redox behavior in nickel - yttria stabilized zirconia observed in-situ by monochromatic neutron imaging. Journal of Power Sources, 2017, 340, 167-175.	7.8	17
49	Structure determination of the Si(001)-(2Ã—1)-H reconstruction by surface X-ray diffraction: weakening of the dimer bond by the addition of hydrogen. Surface Science, 2000, 453, 18-24.	1.9	16
50	3D-characterisation of microstructure evolution during annealing of a deformed aluminum single crystal. Acta Materialia, 2003, 51, 2517-2529.	7.9	16
51	Tracking polycrystal evolution non-destructively in 3D by laboratory X-ray diffraction contrast tomography. Materials Characterization, 2021, 172, 110814.	4.4	16
52	Experimental surface charge density of theSi(100)â”2Ã—1Hsurface. Physical Review B, 2006, 74, .	3.2	15
53	Flexible sample environment for high resolution neutron imaging at high temperatures in controlled atmosphere. Review of Scientific Instruments, 2015, 86, 125109.	1.3	13
54	4D Study of Grain Growth in Armco Iron Using Laboratory X-ray Diffraction Contrast Tomography. IOP Conference Series: Materials Science and Engineering, 2017, 219, 012039.	0.6	12

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55	Mapping misoriented fibers using X-ray dark field tomography. Applied Physics A: Materials Science and Processing, 2014, 115, 741-745.	2.3	11
56	3D Crystal Orientation Mapping of Recrystallization in Severely Cold-rolled Pure Iron Using Laboratory Diffraction Contrast Tomography. ISIJ International, 2020, 60, 528-533.	1.4	11
57	Integral mean curvature analysis of 3D grain growth: Linearity of dV/dt and grain volume. IOP Conference Series: Materials Science and Engineering, 2019, 580, 012020.	0.6	9
58	Advanced Acquisition Strategies for Lab-Based Diffraction Contrast Tomography. Integrating Materials and Manufacturing Innovation, 2022, 11, 1-12.	2.6	9
59	Mapping grains and their dynamics in three dimensions. Nuclear Instruments & Methods in Physics Research B, 2006, 246, 232-237.	1.4	8
60	Phase Transition Mapping by Means of Neutron Imaging in SOFC Anode Supports during Reduction under Applied Stress. ECS Transactions, 2015, 68, 1103-1114.	0.5	8
61	Crystallographic tomography and molecular modelling of structured organic polycrystalline powders. CrystEngComm, 2021, 23, 2520-2531.	2.6	8
62	Growth kinetics of individual grains during recrystallization with an intermediate cooling cycle. Scripta Materialia, 2003, 48, 513-518.	5.2	7
63	Ferrite Formation during Slow Continuous Cooling in Steel. Materials Science Forum, 2007, 550, 357-362.	0.3	7
64	Macroscopic mapping of microscale fibers in freeform injection molded fiber-reinforced composites using X-ray scattering tensor tomography. Composites Part B: Engineering, 2022, 233, 109634.	12.0	7
65	Investigating phase behavior and structural changes in NiO/Ni-YSZ composite with monochromatic in-situ 2D and static 3D neutron imaging. Physica B: Condensed Matter, 2018, 551, 24-28.	2.7	6
66	3DXRD microscopy for the study of solid-state phase transformation kinetics. Nuclear Instruments & Methods in Physics Research B, 2005, 238, 107-110.	1.4	4
67	In situ characterization of delamination and crack growth of a CGOâ€“LSM multi-layer ceramic sample investigated by X-ray tomographic microscopy. Journal of the European Ceramic Society, 2014, 34, 3019-3025.	5.7	3
68	3D Non-Destructive Characterization of Electrical Steels for Quantitative Texture Analysis with Lab-Based X-ray Diffraction Contrast Tomography. Integrating Materials and Manufacturing Innovation, 2021, 10, 551-558.	2.6	3
69	Three-Dimensional Characterization of Polycrystalline Materials by Combination of X-ray Diffraction and X-ray Imaging Techniques. Microscopy and Microanalysis, 2009, 15, 616-617.	0.4	2
70	Towards a Phase Field Model of the Microstructural Evolution of Duplex Steel with Experimental Verification. Materials Science Forum, 2012, 715-716, 635-642.	0.3	1
71	3D X-RAY DIFFRACTION MICROSCOPY. , 2014, , 205-253.		1
72	Statistics and Reproducibility of Grain Morphologies and Crystallographic Orientations Mapped by Laboratory Diffraction Contrast Tomography. IOP Conference Series: Materials Science and Engineering, 2019, 580, 012046.	0.6	1

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73	Interface Orientation Distribution during Grain Growth in Bulk SrTiO3 Measured by Means of 3D X-Ray Diffraction Contrast Tomography. Materials Research Society Symposia Proceedings, 2012, 1421, 58.	0.1	0
74	Grain Centre Mapping â€" 3DXRD Measurements of Average Grain Characteristic. , 2014, , 254-279.		0
75	Mapping Grain Morphology and Grain Orientations by Laboratory Diffraction Contrast Tomography. Microscopy and Microanalysis, 2019, 25, 366-367.	0.4	0