Rainer Backofen

List of Publications by Year
in descending order

39	1,015	430874 18	414414 32
papers	citations	h-index	g-index

39	39	39	776
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A comparison of different approaches to enforce lattice symmetry in twoâ€dimensional crystals. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000192.	0.2	3
2	Magnetically induced/enhanced coarsening in thin films. Physical Review Materials, 2020, 4, .	2.4	6
3	Controlling Grain Boundaries by Magnetic Fields. Physical Review Letters, 2019, 122, 126103.	7.8	18
4	Solid-state dewetting of single-crystal silicon on insulator: effect of annealing temperature and patch size. Microelectronic Engineering, 2018, 190, 1-6.	2.4	12
5	Defects at grain boundaries: A coarse-grained, three-dimensional description by the amplitude expansion of the phase-field crystal model. Physical Review Materials, 2018, 2, .	2.4	20
6	Phase-field simulations of faceted Ge/Si-crystal arrays, merging into a suspended film. Applied Surface Science, 2017, 391, 33-38.	6.1	18
7	Controlling the energy of defects and interfaces in the amplitude expansion of the phase-field crystal model. Physical Review E, 2017, 96, 023301.	2.1	27
8	Complex dewetting scenarios of ultrathin silicon films for large-scale nanoarchitectures. Science Advances, 2017, 3, eaao1472.	10.3	74
9	Morphological Evolution of Pit-Patterned Si(001) Substrates Driven by Surface-Energy Reduction. Nanoscale Research Letters, 2017, 12, 554.	5.7	30
10	Thin-film growth dynamics with shadowing effects by a phase-field approach. Physical Review B, 2016, 94, .	3.2	16
11	Stress Induced Branching of Growing Crystals on Curved Surfaces. Physical Review Letters, 2016, 116, 135502.	7.8	26
12	Continuum modelling of semiconductor heteroepitaxy: an applied perspective. Advances in Physics: X, 2016, 1, 331-367.	4.1	14
13	Relaxation of curvature-induced elastic stress by the Asaro-Tiller-Grinfeld instability. Europhysics Letters, 2015, 111, 48006.	2.0	9
14	Two-dimensional liquid crystalline growth within a phase-field-crystal model. Physical Review E, 2015, 92, 012504.	2.1	1
15	Faceting of Equilibrium and Metastable Nanostructures: A Phase-Field Model of Surface Diffusion Tackling Realistic Shapes. Crystal Growth and Design, 2015, 15, 2787-2794.	3.0	69
16	Engineered Coalescence by Annealing 3D Ge Microstructures into High-Quality Suspended Layers on Si. ACS Applied Materials & Interfaces, 2015, 7, 19219-19225.	8.0	24
17	The interplay of morphological and compositional evolution in crystal growth: a phase-field model. Philosophical Magazine, 2014, 94, 2162-2169.	1.6	10
18	Capturing the complex physics behind universal grain size distributions in thin metallic films. Acta Materialia, 2014, 64, 72-77.	7.9	55

#	Article	IF	Citations
19	A phase field crystal study of heterogeneous nucleation â€“ application of the string method. European Physical Journal: Special Topics, 2014, 223, 497-509.	2.6	10
20	The influence of membrane bound proteins on phase separation and coarsening in cell membranes. Physical Chemistry Chemical Physics, 2012, 14, 14509.	2.8	31
21	Three-dimensional phase-field crystal modeling of fcc and bcc dendritic crystal growth. Journal of Crystal Growth, 2011, 334, 146-152.	1.5	39
22	A Continuous Approach to Discrete Ordering on $mathbb{S}^2$. Multiscale Modeling and Simulation, 2011, 9, 314-334.	1.6	20
23	Morphological instability of heteroepitaxial growth on vicinal substrates: A phase-field crystal study. Journal of Crystal Growth, 2011, 318, 18-22.	1.5	22
24	Elastic interactions in phase-field crystal models: numerics and postprocessing. International Journal of Materials Research, 2010, 101, 467-472.	0.3	4
25	A phase-field-crystal approach to critical nuclei. Journal of Physics Condensed Matter, 2010, 22, 364104.	1.8	25
26	Particles on curved surfaces: A dynamic approach by a phase-field-crystal model. Physical Review E, 2010, 81, 025701.	2.1	31
27	Derivation of the phase-field-crystal model for colloidal solidification. Physical Review E, 2009, 79, 051404.	2.1	178
28	Solidâ€“liquid interfacial energies and equilibrium shapes of nanocrystals. Journal of Physics Condensed Matter, 2009, 21, 464109.	1.8	12
29	Phase-field simulation of stripe arrays on metal bcc(110) surfaces. Physical Review E, 2008, 77, 051605.	2.1	9
30	Nucleation and growth by a phase field crystal (PFC) model. Philosophical Magazine Letters, 2007, 87, 813-820.	1.2	84
31	<mml:math altimg="si3.gif" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	2.0	1
32	A cellular automata algorithm for step dynamics in continuum modeling of epitaxial growth. Journal of Crystal Growth, 2007, 303, 100-104.	1.5	4
33	A framework for optimization of crystal growth processes applied to VGF growth of fluorides. Journal of Crystal Growth, 2005, 275, e349-e353.	1.5	3
34	SPN-approximations of internal radiation in crystal growth of optical materials. Journal of Crystal Growth, 2004, 266, 264-270.	1.5	29
35	Numerical simulation of formation of grain structure and global heat transport during solidification of technical alloys in MSL inserts. Advances in Space Research, 2002, 29, 549-552.	2.6	2
36	Optimal temperature profiles for annealing of GaAs-crystals. Journal of Crystal Growth, 2000, 220, 6-15.	1.5	12

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37	Process modeling of the industrial VGF growth process using the software package CrysVUN++. Journal of Crystal Growth, 2000, 211, 202-206.	1.5	32
38	Study of oxygen transport in Czochralski growth of silicon. Microelectronic Engineering, 1999, 45, 135-147.	2.4	31
39	Magnetic APFC modeling and the inï¬‚uence of magneto-structural interactions on grain shrinkage. Modelling and Simulation in Materials Science and Engineering, 0, , .	2.0	4