

# Rainer Backofen

## List of Publications by Year in descending order

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39  
papers

1,015  
citations

430442

18  
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414034

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39  
all docs

39  
docs citations

39  
times ranked

776  
citing authors

#	ARTICLE	IF	CITATIONS
1	A comparison of different approaches to enforce lattice symmetry in two-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, .	0.9	6
3	Controlling Grain Boundaries by Magnetic Fields. Physical Review Letters, 2019, 122, 126103.	2.9	18
4	Solid-state dewetting of single-crystal silicon on insulator: effect of annealing temperature and patch size. Microelectronic Engineering, 2018, 190, 1-6.	1.1	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, .	0.9	20
6	Phase-field simulations of faceted Ge/Si-crystal arrays, merging into a suspended film. Applied Surface Science, 2017, 391, 33-38.	3.1	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.	0.8	27
8	Complex dewetting scenarios of ultrathin silicon films for large-scale nanoarchitectures. Science Advances, 2017, 3, eaao1472.	4.7	74
9	Morphological Evolution of Pit-Patterned Si(001) Substrates Driven by Surface-Energy Reduction. Nanoscale Research Letters, 2017, 12, 554.	3.1	30
10	Thin-film growth dynamics with shadowing effects by a phase-field approach. Physical Review B, 2016, 94, .	1.1	16
11	Stress Induced Branching of Growing Crystals on Curved Surfaces. Physical Review Letters, 2016, 116, 135502.	2.9	26
12	Continuum modelling of semiconductor heteroepitaxy: an applied perspective. Advances in Physics: X, 2016, 1, 331-367.	1.5	14
13	Relaxation of curvature-induced elastic stress by the Asaro-Tiller-Grinfeld instability. Europhysics Letters, 2015, 111, 48006.	0.7	9
14	Two-dimensional liquid crystalline growth within a phase-field-crystal model. Physical Review E, 2015, 92, 012504.	0.8	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.	1.4	69
16	Engineered Coalescence by Annealing 3D Ge Microstructures into High-Quality Suspended Layers on Si. ACS Applied Materials & Interfaces, 2015, 7, 19219-19225.	4.0	24
17	The interplay of morphological and compositional evolution in crystal growth: a phase-field model. Philosophical Magazine, 2014, 94, 2162-2169.	0.7	10
18	Capturing the complex physics behind universal grain size distributions in thin metallic films. Acta Materialia, 2014, 64, 72-77.	3.8	55

#	ARTICLE	IF	CITATIONS
19	A phase field crystal study of heterogeneous nucleation – application of the string method. European Physical Journal: Special Topics, 2014, 223, 497-509.	1.2	10
20	The influence of membrane bound proteins on phase separation and coarsening in cell membranes. Physical Chemistry Chemical Physics, 2012, 14, 14509.	1.3	31
21	Three-dimensional phase-field crystal modeling of fcc and bcc dendritic crystal growth. Journal of Crystal Growth, 2011, 334, 146-152.	0.7	39
22	A Continuous Approach to Discrete Ordering on $\mathbb{S}^2$ . Multiscale Modeling and Simulation, 2011, 9, 314-334.	0.6	20
23	Morphological instability of heteroepitaxial growth on vicinal substrates: A phase-field crystal study. Journal of Crystal Growth, 2011, 318, 18-22.	0.7	22
24	Elastic interactions in phase-field crystal models: numerics and postprocessing. International Journal of Materials Research, 2010, 101, 467-472.	0.1	4
25	A phase-field-crystal approach to critical nuclei. Journal of Physics Condensed Matter, 2010, 22, 364104.	0.7	25
26	Particles on curved surfaces: A dynamic approach by a phase-field-crystal model. Physical Review E, 2010, 81, 025701.	0.8	31
27	Derivation of the phase-field-crystal model for colloidal solidification. Physical Review E, 2009, 79, 051404.	0.8	178
28	Solid-liquid interfacial energies and equilibrium shapes of nanocrystals. Journal of Physics Condensed Matter, 2009, 21, 464109.	0.7	12
29	Phase-field simulation of stripe arrays on metal bcc(110) surfaces. Physical Review E, 2008, 77, 051605.	0.8	9
30	Nucleation and growth by a phase field crystal (PFC) model. Philosophical Magazine Letters, 2007, 87, 813-820.	0.5	84
31	$\langle \mathbf{r} \rangle$	1.1	1
32	A cellular automata algorithm for step dynamics in continuum modeling of epitaxial growth. Journal of Crystal Growth, 2007, 303, 100-104.	0.7	4
33	A framework for optimization of crystal growth processes applied to VGF growth of fluorides. Journal of Crystal Growth, 2005, 275, e349-e353.	0.7	3
34	SPN-approximations of internal radiation in crystal growth of optical materials. Journal of Crystal Growth, 2004, 266, 264-270.	0.7	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.	1.2	2
36	Optimal temperature profiles for annealing of GaAs-crystals. Journal of Crystal Growth, 2000, 220, 6-15.	0.7	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.	0.7	32
38	Study of oxygen transport in Czochralski growth of silicon. Microelectronic Engineering, 1999, 45, 135-147.	1.1	31
39	Magnetic APFC modeling and the influence of magneto-structural interactions on grain shrinkage. Modelling and Simulation in Materials Science and Engineering, 0, , .	0.8	4