

# Bernd Rauschenbach

## List of Publications by Year in descending order

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79  
papers

1,886  
citations

236925

25  
h-index

302126

39  
g-index

80  
all docs

80  
docs citations

80  
times ranked

1751  
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase change thin films for non-volatile memory applications. <i>Nanoscale Advances</i> , 2019, 1, 3836-3857.	4.6	97
2	Real-space imaging of atomic arrangement and vacancy layers ordering in laser crystallised Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> phase change thin films. <i>Acta Materialia</i> , 2016, 105, 1-8.	7.9	84
3	Highly sensitive and specific detection of E. coli by a SERS nanobiosensor chip utilizing metallic nanosculptured thin films. <i>Analyst</i> , 2015, 140, 3201-3209.	3.5	80
4	SERS Biosensor Using Metallic Nano-sculptured Thin Films for the Detection of Endocrine Disrupting Compound Biomarker Vitellogenin. <i>Small</i> , 2014, 10, 3579-3587.	10.0	78
5	Crystallization of Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> thin films by nano- and femtosecond single laser pulse irradiation. <i>Scientific Reports</i> , 2016, 6, 28246.	3.3	68
6	Surface-enhanced fluorescence from metal sculptured thin films with application to biosensing in water. <i>Applied Physics Letters</i> , 2009, 94, 063106.	3.3	65
7	Van der Waals interfacial bonding and intermixing in GeTe-Sb <sub>2</sub> Te <sub>3</sub> -based superlattices. <i>Nano Research</i> , 2018, 11, 1676-1686.	10.4	62
8	Glancing angle sputter deposited nanostructures on rotating substrates: Experiments and simulations. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	61
9	Atomic structure and dynamic reconfiguration of layered defects in van der Waals layered Ge-Sb-Te based materials. <i>Acta Materialia</i> , 2017, 141, 92-96.	7.9	59
10	Direct imaging of crystal structure and defects in metastable Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> by quantitative aberration-corrected scanning transmission electron microscopy. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	51
11	Focused high- and low-energy ion milling for TEM specimen preparation. <i>Microelectronics Reliability</i> , 2015, 55, 2119-2125.	1.7	51
12	Realization of Multilevel States in Phase-Change Thin Films by Fast Laser Pulse Irradiation. <i>Advanced Optical Materials</i> , 2017, 5, 1700169.	7.3	43
13	<i>In situ</i> observations of the reversible vacancy ordering process in van der Waals-bonded GeSbTe thin films and GeTe <sub>2</sub> Te <sub>3</sub> superlattices. <i>Nanoscale</i> , 2019, 11, 10838-10845.	5.6	43
14	Local atomic arrangements and lattice distortions in layered Ge-Sb-Te crystal structures. <i>Scientific Reports</i> , 2016, 6, 26724.	3.3	42
15	Temperature dependent evolution of local structure in chalcogenide-based superlattices. <i>Applied Surface Science</i> , 2021, 536, 147959.	6.1	42
16	Research Update: Van-der-Waals epitaxy of layered chalcogenide Sb <sub>2</sub> Te <sub>3</sub> thin films grown by pulsed laser deposition. <i>APL Materials</i> , 2017, 5, 050701.	5.1	37
17	Epitaxial formation of cubic and trigonal Ge-Sb-Te thin films with heterogeneous vacancy structures. <i>Materials and Design</i> , 2017, 115, 138-146.	7.0	36
18	Ultrafast interfacial transformation from 2D- to 3D-bonded structures in layered GeSbTe thin films and heterostructures. <i>Nanoscale</i> , 2018, 10, 22946-22953.	5.6	36

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19	Microstructure evolution in pulsed laser deposited epitaxial Ge-Sb-Te chalcogenide thin films. Journal of Alloys and Compounds, 2016, 676, 582-590.	5.5	32
20	Temperature effect on the glancing angle deposition of Si sculptured thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2008, 26, 881-886.	2.1	31
21	Influence of substrate temperature on glancing angle deposited Ag nanorods. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2010, 28, 1002-1009.	2.1	30
22	Nanostructure fabrication by glancing angle ion beam assisted deposition of silicon. Applied Physics A: Materials Science and Processing, 2005, 81, 481-486.	2.3	29
23	Periodically arranged Si nanostructures by glancing angle deposition on patterned substrates. Physica Status Solidi (B): Basic Research, 2010, 247, 1322-1334.	1.5	29
24	Ordered silicon nanostructures by ion beam induced glancing angle deposition. Journal of Vacuum Science & Technology B, 2007, 25, 833.	1.3	27
25	Tubular magnetic nanostructures based on glancing angle deposited templates and atomic layer deposition. Physica Status Solidi (B): Basic Research, 2010, 247, 1365-1371.	1.5	25
26	Comparison of ion-beam-assisted molecular beam epitaxy with conventional molecular beam epitaxy of thin hexagonal gallium nitride films. Journal of Crystal Growth, 2004, 264, 184-191.	1.5	24
27	Detailed study of surface-enhanced Raman scattering from metallic nanosculptured thin films and their potential for biosensing. Journal of Nanophotonics, 2012, 6, 061605-1.	1.0	24
28	Growth of Si nanorods in honeycomb and hexagonal-closed-packed arrays using glancing angle deposition. Journal of Applied Physics, 2008, 103, .	2.5	23
29	Arbitrarily shaped Si nanostructures by glancing angle ion beam sputter deposition. Physica Status Solidi (B): Basic Research, 2010, 247, 1310-1321.	1.5	23
30	Glancing angle deposition of sculptured thin metal films at room temperature. Nanotechnology, 2017, 28, 385604.	2.6	23
31	Impact of disorder on optical reflectivity contrast of epitaxial Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> thin films. CrystEngComm, 2018, 20, 3688-3695.	2.6	22
32	Low temperature epitaxy of Ge-Sb-Te films on BaF <sub>2</sub> (111) by pulsed laser deposition. Applied Physics Letters, 2014, 105, 221908.	3.3	21
33	Semiconductor Nanowires Prepared by Diffraction-Mask-Projection Excimer-Laser Patterning. Nano Letters, 2004, 4, 895-897.	9.1	20
34	Plasmonic Activity of Large-Area Gold Nanodot Arrays on Arbitrary Substrates. Nano Letters, 2010, 10, 47-51.	9.1	20
35	Initial stages of the ion-beam assisted epitaxial GaN film growth on 6H-SiC(0001). Thin Solid Films, 2012, 520, 3936-3945.	1.8	18
36	An aberration-corrected STEM study of structural defects in epitaxial GaN thin films grown by ion beam assisted MBE. Micron, 2015, 73, 1-8.	2.2	18

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37	Influence of substrate dimensionality on the growth mode of epitaxial 3D-bonded GeTe thin films: From 3D to 2D growth. <i>Materials and Design</i> , 2019, 168, 107657.	7.0	18
38	Chiral silicon nanostructures. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2006, 244, 40-44.	1.4	17
39	Recrystallization behavior in chiral sculptured thin films from silicon. <i>Journal of Applied Physics</i> , 2006, 100, 016107.	2.5	17
40	Atomic-scale observation of defects motion in van der Waals layered chalcogenide based materials. <i>Scripta Materialia</i> , 2019, 166, 154-158.	5.2	17
41	SERS analyses of thiamethoxam assisted by Ag films and nanostructures produced by laser techniques. <i>Journal of Raman Spectroscopy</i> , 2018, 49, 397-403.	2.5	15
42	Comparative study of sculptured metallic thin films deposited by oblique angle deposition at different temperatures. <i>Beilstein Journal of Nanotechnology</i> , 2018, 9, 954-962.	2.8	15
43	Large area metal dot matrices made by diffraction mask projection laser ablation. <i>Physica Status Solidi - Rapid Research Letters</i> , 2008, 2, 34-36.	2.4	14
44	Epitaxial GaN films by hyperthermal ion-beam nitridation of Ga droplets. <i>Journal of Applied Physics</i> , 2012, 111, 113521.	2.5	14
45	Direct imaging of light elements by annular dark-field aberration-corrected scanning transmission electron microscopy. <i>Applied Physics Letters</i> , 2014, 104, 071908.	3.3	14
46	Epitaxial Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> films on Si(111) prepared by pulsed laser deposition. <i>Thin Solid Films</i> , 2016, 619, 81-85.	1.8	14
47	Enhanced intrinsic fluorescence from carboxidized nano-sculptured thin films of silver and their application for label free dual detection of glycated hemoglobin. <i>Optics Express</i> , 2017, 25, 4761.	3.4	14
48	Epitaxial layered Sb <sub>2</sub> Te <sub>3</sub> thin films for memory and neuromorphic applications. <i>2D Materials</i> , 2021, 8, 045027.	4.4	14
49	Ion beam sputter deposition of soft x-ray Mo <sup>+</sup> Si multilayer mirrors. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2005, 23, 959.	1.6	13
50	Growth temperature altered morphology of Ge nanocolumns. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2011, 208, 851-856.	1.8	13
51	Optimized growth of Ge nanorod arrays on Si patterns. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2011, 29, 051501.	2.1	13
52	Direct Measurement of Crystal Growth Velocity in Epitaxial Phase-Change Material Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 41544-41550.	8.0	13
53	Structural Transitions in Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> Phase Change Memory Thin Films Induced by Nanosecond UV Optical Pulses. <i>Materials</i> , 2020, 13, 2082.	2.9	13
54	Impact of interfaces on bipolar resistive switching behavior in amorphous Ge <sup>+</sup> Sb <sup>+</sup> Te thin films. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 184002.	2.8	13

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55	Nanostructures by diffraction mask projection laser ablation. Physica Status Solidi (B): Basic Research, 2010, 247, 1372-1383.	1.5	12
56	Epitaxial growth of Ge-Sb-Te films on KCl by high deposition rate pulsed laser deposition. Journal of Applied Physics, 2014, 115, 213504.	2.5	12
57	Embedded Ge nanocrystals in SiO <sub>2</sub> synthesized by ion implantation. Journal of Applied Physics, 2015, 118, .	2.5	12
58	Nanoscale laser patterning of thin gold films. Philosophical Magazine Letters, 2006, 86, 661-667.	1.2	11
59	Glancing angle deposition of Ge nanorod arrays on Si patterned substrates. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	11
60	Gold nanostructure matrices by diffraction mask-projection laser ablation: extension to previously inaccessible substrates. Nanotechnology, 2010, 21, 175304.	2.6	9
61	Au and Ag films and nanostructures for detection of fungicide mancozeb: SERS analyses. , 2019, , .		9
62	Patterning concept for sculptured nanostructures with arbitrary periods. Applied Physics Letters, 2009, 95, 103107.	3.3	8
63	Effects of annealing on arrays of Ge nanocolumns formed by glancing angle deposition. Applied Surface Science, 2012, 258, 9762-9769.	6.1	8
64	Ion Beam Assisted Deposition of Thin Epitaxial GaN Films. Materials, 2017, 10, 690.	2.9	8
65	Ion beam induced anisotropic deformation of Si nanosprings. Journal Physics D: Applied Physics, 2009, 42, 145404.	2.8	7
66	Rapid thermal and swift heavy ion induced annealing of Co ion implanted GaN films. Journal of Applied Physics, 2008, 103, 124904.	2.5	6
67	High-fluence hyperthermal ion irradiation of gallium nitride surfaces at elevated temperatures. Applied Surface Science, 2014, 317, 811-817.	6.1	6
68	Topography evolution of germanium thin films synthesized by pulsed laser deposition. AIP Advances, 2017, 7, .	1.3	5
69	Ion mass and energy selective hyperthermal ion-beam assisted deposition setup. Review of Scientific Instruments, 2017, 88, 063306.	1.3	5
70	Graphene on silicon dioxide via carbon ion implantation in copper with PMMA-free transfer. Applied Physics Letters, 2017, 110, .	3.3	4
71	Crystalline Ti-nanostructures prepared by oblique angle deposition at room temperature. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2018, 36, .	1.2	4
72	Biaxially Textured Titanium Thin Films by Oblique Angle Deposition: Conditions and Growth Mechanisms. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900636.	1.8	4

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73	Induced phase selection in epitaxial $G_{e_2S}$ layers by glancing angle deposition. <i>Vakuum in Forschung Und Praxis</i> , 2010, 22, 14-19.	2.4	3
74	Glancing Angle Deposition for Biosensing Applications. , 2018, , 129-137.	0.1	2
75	A new mask blank deposition tool. <i>Microelectronic Engineering</i> , 2006, 83, 718-722.	2.4	1
76	Non-periodic nanoscale templates by diffraction mask projection laser ablation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 2208-2211.	1.8	1
77	Influence of nitrogen ion species on mass-selected low energy ion-assisted growth of epitaxial GaN thin films. <i>Applied Surface Science</i> , 2019, 498, 143830.	6.1	1
79	Back Cover: Non-periodic nanoscale templates by diffraction mask projection laser ablation (Phys.) Tj ETQq1 1 0.784314 rgBT /Over	1.8	0