

# Moritz Brehm

## List of Publications by Year in descending order

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48  
papers

1,060  
citations

393982

19  
h-index

414034

32  
g-index

48  
all docs

48  
docs citations

48  
times ranked

754  
citing authors

#	ARTICLE	IF	CITATIONS
1	Advanced preparation of plan-view specimens on a MEMS chip for in situ TEM heating experiments. MRS Bulletin, 2022, 47, 359-370.	1.7	12
2	On-chip infrared photonics with Si-Ge-heterostructures: What is next?. APL Photonics, 2022, 7, .	3.0	18
3	Relaxation Delay of Ge-Rich Epitaxial SiGe Films on Si(001). Physica Status Solidi (A) Applications and Materials Science, 2022, 219, .	0.8	3
4	(Invited) Light-Emitting Devices Based on Defect-Enhanced Group-IV Nanostructures. ECS Meeting Abstracts, 2022, MA2022-01, 1080-1080.	0.0	0
5	Light-Emission from Ion-Implanted Group-IV Nanostructures. Topics in Applied Physics, 2021, , 67-103.	0.4	2
6	Advanced hydrogenation process applied on Ge on Si quantum dots for enhanced light emission. Applied Physics Letters, 2021, 118, .	1.5	8
7	Light emission from direct band gap germanium containing split-interstitial defects. Physical Review B, 2021, 103, .	1.1	11
8	Photoluminescence enhancement by deterministically site-controlled, vertically stacked SiGe quantum dots. Scientific Reports, 2021, 11, 20597.	1.6	4
9	Gettering and Defect Engineering in Semiconductor Technology (GADEST 2021). Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100728.	0.8	1
10	In-Situ Annealing and Hydrogen Irradiation of Defect-Enhanced Germanium Quantum Dot Light Sources on Silicon. Crystals, 2020, 10, 351.	1.0	10
11	Thermal Stability of Defect-Enhanced Ge on Si Quantum Dot Luminescence upon Millisecond Flash Lamp Annealing. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900307.	0.8	9
12	Future Roads for Group-IV Defect-enhanced Quantum Dot Light-emitters for Silicon Photonics. , 2019, , .		0
13	Assessing Carrier Recombination Processes in Type-II SiGe/Si(001) Quantum Dots. Annalen Der Physik, 2019, 531, 1800259.	0.9	7
14	SiGe quantum well infrared photodetectors on strained-silicon-on-insulator. Optics Express, 2019, 27, 32009.	1.7	14
15	Room-Temperature Group-IV LED Based on Defect-Enhanced Ge Quantum Dots. ACS Photonics, 2018, 5, 431-438.	3.2	30
16	Photoluminescence enhancement through vertical stacking of defect-engineered Ge on Si quantum dots. Semiconductor Science and Technology, 2017, 32, 02LT01.	1.0	19
17	Enhanced Telecom Emission from Single Group-IV Quantum Dots by Precise CMOS-Compatible Positioning in Photonic Crystal Cavities. ACS Photonics, 2017, 4, 665-673.	3.2	48
18	Site-controlled and advanced epitaxial Ge/Si quantum dots: fabrication, properties, and applications. Nanotechnology, 2017, 28, 392001.	1.3	49

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19	Free-running Sn precipitates: an efficient phase separation mechanism for metastable Ge $_{1-x}$ Sn $_x$ epilayers. Scientific Reports, 2017, 7, 16114.	1.6	31
20	Laser Level Scheme of Self-Interstitials in Epitaxial Ge Dots Encapsulated in Si. Nano Letters, 2016, 16, 6802-6807.	4.5	27
21	Lasing from Glassy Ge Quantum Dots in Crystalline Si. ACS Photonics, 2016, 3, 298-303.	3.2	87
22	Optical properties of individual site-controlled Ge quantum dots. Applied Physics Letters, 2015, 106, .	1.5	16
23	Atomic structure and composition distribution in wetting layers and islands of germanium grown on silicon (001) substrates. Nanotechnology, 2015, 26, 485702.	1.3	9
24	Photoluminescence investigation of strictly ordered Ge dots grown on pit-patterned Si substrates. Nanotechnology, 2015, 26, 225202.	1.3	12
25	Evolution of epitaxial semiconductor nanodots and nanowires from supersaturated wetting layers. Chemical Society Reviews, 2015, 44, 26-39.	18.7	41
26	Evolution and coarsening of Si-rich SiGe islands epitaxially grown at high temperatures on Si(001). Microelectronic Engineering, 2014, 125, 22-27.	1.1	3
27	Recipes for the fabrication of strictly ordered Ge islands on pit-patterned Si(001) substrates. Nanotechnology, 2013, 24, 105601.	1.3	72
28	Unrolling the evolution kinetics of ordered SiGe islands via Ge surface diffusion. Physical Review B, 2013, 88, .	1.1	16
29	Misfit dislocation gettering by substrate pit-patterning in SiGe films on Si(001). Applied Physics Letters, 2012, 101, .	1.5	12
30	Morphological evolution of Ge/Si(001) quantum dot rings formed at the rim of wet-etched pits. Nanoscale Research Letters, 2012, 7, 601.	3.1	12
31	Excitation intensity dependence of photoluminescence spectra of SiGe quantum dots grown on prepatterned Si substrates: Evidence for biexcitonic transition. Physical Review B, 2012, 86, .	1.1	17
32	Anisotropic remastering for reducing feature sizes on UV nanoimprint lithography replica molds. Nanotechnology, 2012, 23, 165302.	1.3	5
33	Dislocation engineering in SiGe heteroepitaxial films on patterned Si (001) substrates. Applied Physics Letters, 2011, 98, 121908.	1.5	9
34	Ultra-steep side facets in multi-faceted SiGe/Si(001) Stranski-Krastanow islands. Nanoscale Research Letters, 2011, 6, 70.	3.1	44
35	Assessing the delay of plastic relaxation onset in SiGe islands grown on pit-patterned Si(001) substrates. Applied Physics Letters, 2011, 99, 033106.	1.5	20
36	The influence of a Si cap on self-organized SiGe islands and the underlying wetting layer. Journal of Applied Physics, 2011, 109, 123505.	1.1	39

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37	How pit facet inclination drives heteroepitaxial island positioning on patterned substrates. <i>Physical Review B</i> , 2011, 84, .	1.1	41
38	Microphotoluminescence and perfect ordering of SiGe islands on pit-patterned Si(001) substrates. <i>Nanotechnology</i> , 2011, 22, 165302.	1.3	33
39	Temperature-dependent evolution of the wetting layer thickness during Ge deposition on Si(001). <i>Nanotechnology</i> , 2011, 22, 285704.	1.3	17
40	UV nanoimprint lithography for the realization of large-area ordered SiGe/Si(001) island arrays. <i>Applied Physics Letters</i> , 2011, 98, 143101.	1.5	30
41	Excitation Intensity Driven PL Shifts of SiGe Islands on Patterned and Planar Si(001) Substrates: Evidence for Ge-rich Dots in Islands. <i>Nanoscale Research Letters</i> , 2010, 5, 1868-1872.	3.1	26
42	Inverted Ge islands in {111} faceted Si pits—a novel approach towards SiGe islands with higher aspect ratio. <i>New Journal of Physics</i> , 2010, 12, 063002.	1.2	29
43	Enhanced infrared emission from colloidal HgTe nanocrystal quantum dots on silicon-on-insulator photonic crystals. <i>Applied Physics Letters</i> , 2009, 95, 053107.	1.5	7
44	Key role of the wetting layer in revealing the hidden path of Ge/Si(001) Stranski-Krastanow growth onset. <i>Physical Review B</i> , 2009, 80, .	1.1	96
45	Combined structural and photoluminescence study of SiGe islands on Si substrates: comparison with realistic energy level calculations. <i>New Journal of Physics</i> , 2009, 11, 063021.	1.2	33
46	Bandstructure and photoluminescence of SiGe islands with controlled Ge concentration. <i>Microelectronics Journal</i> , 2008, 39, 485-488.	1.1	3
47	Quantitative determination of Ge profiles across SiGe wetting layers on Si (001). <i>Applied Physics Letters</i> , 2008, 93, .	1.5	28
48	Epitaxial growth of planar hutwires on silicon-on-insulator substrates. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 0, , .	0.8	0