Sebastian Lehmann

List of Publications by Year
in descending order

113 papers	2,392 citations	236612 25 h-index	253896 43 g-index
114 all docs	114 docs citations	114 times ranked	2658 citing authors

#	Article	IF	Citations
1	Experimental Verification of the Work Fluctuation-Dissipation Relation for Information-to-Work Conversion. Physical Review Letters, 2022, 128, 040602.	2.9	12
2	Growth selectivity control of InAs shells on crystal phase engineered GaAs nanowires. Nanoscale Advances, 2022, 4, 3330-3341.	2.2	5
3	Time-resolved photoluminescence studies of single interface wurtzite/zincblende heterostructured InP nanowires. Applied Physics Letters, 2022, 120, .	1.5	2
4	Effects of Parity and Symmetry on the Aharonovâ€“Bohm Phase of a Quantum Ring. Nano Letters, 2022, 22, 334-339.	4.5	5
5	Integrated bioelectronic proton-gated logic elements utilizing nanoscale patterned Nafion. Materials Horizons, 2021, 8, 224-233.	6.4	9
6	Unraveling the Ultrafast Hot Electron Dynamics in Semiconductor Nanowires. ACS Nano, 2021, 15, 1133-1144.	7.3	18
7	Vaporâ€“solidâ€“solid growth dynamics in GaAs nanowires. Nanoscale Advances, 2021, 3, 5928-5940.	2.2	16
8	Gate control, g factors, and spin-orbit energy of p -type GaSb nanowire quantum dot devices. Physical Review B, 2021, 103, .	1.1	1
9	Fano resonance between Stokes and anti-Stokes Brillouin scattering. Physical Review Research, 2021, 3, .	1.3	5
10	Symmetry-controlled singlet-triplet transition in a double-barrier quantum ring. Physical Review B, 2021, 104, .	1.1	4
11	Efficient and continuous microwave photoconversion in hybrid cavity-semiconductor nanowire double quantum dot diodes. Nature Communications, 2021, 12, 5130.	5.8	17
12	Self-selective formation of ordered 1D and 2D GaBi structures on wurtzite GaAs nanowire surfaces. Nature Communications, 2021, 12, 5990.	5.8	3
13	Atomically sharp, crystal phase defined GaAs quantum dots. Applied Physics Letters, 2021, 119, .	1.5	7
14	Ultrafast Optical Generation of Coherent Bright and Dark Surface Phonon Polaritons in Nanowires. ACS Photonics, 2020, 7, 1923-1931.	3.2	2
15	Imaging the Thermalization of Hot Carriers After Thermionic Emission Over a Polytype Barrier. Physical Review Applied, 2020, 13, .	1.5	4
16	Two-dimensional electron gas at wurtziteâ€“zinc-blende InP interfaces induced by modulation doping. Applied Physics Letters, 2020, 116, 232103.	1.5	9
17	Magnetic-Field-Independent Subgap States in Hybrid Rashba Nanowires. Physical Review Letters, 2020, 125, 017701.	2.9	38
18	Effect of Radius on Crystal Structure Selection in IIIâ€“V Nanowire Growth. Crystal Growth and Design, 2020, 20, 5373-5379.	1.4	7

#	ARTICLE	IF	CITATIONS
19	Selective tuning of spin-orbital Kondo contributions in parallel-coupled quantum dots. Physical Review B, 2020, 101, .	1.1	2
20	Electron channelling: challenges and opportunities for compositional analysis of nanowires by TEM. Nanotechnology, 2020, 31, 364005.	1.3	6
21	Non-resonant Raman scattering of wurtzite GaAs and InP nanowires. Optics Express, 2020, 28, 11016.	1.7	1
22	Spectroscopy of the superconducting proximity effect in nanowires using integrated quantum dots. Communications Physics, 2019, 2, .	2.0	28
23	Individually addressable double quantum dots formed with nanowire polytypes and identified by epitaxial markers. Applied Physics Letters, 2019, 114, .	1.5	19
24	Simultaneous Growth of Pure Wurtzite and Zinc Blende Nanowires. Nano Letters, 2019, 19, 2723-2730.	4.5	13
25	Electrical control of spins and giant g-factors in ring-like coupled quantum dots. Nature Communications, 2019, 10, 5740.	5.8	11
26	Simulation of GaAs Nanowire Growth and Crystal Structure. Nano Letters, 2019, 19, 1197-1203.	4.5	27
27	Achieving short high-quality gate-all-around structures for horizontal nanowire field-effect transistors. Nanotechnology, 2019, 30, 064001.	1.3	12
28	Short-range versus long-range structure in Cu(In,Ga)Se2, Cu(In,Ga)3Se5, and Cu(In,Ga)5Se8. Journal of Alloys and Compounds, 2019, 774, 803-812.	2.8	15
29	Temperature dependent electronic band structure of wurtzite GaAs nanowires. Nanoscale, 2018, 10, 1481-1486.	2.8	16
30	Spatial Control of Multiphoton Electron Excitations in InAs Nanowires by Varying Crystal Phase and Light Polarization. Nano Letters, 2018, 18, 907-915.	4.5	11
31	Atomic-Resolution Spectrum Imaging of Semiconductor Nanowires. Nano Letters, 2018, 18, 1557-1563.	4.5	21
32	Spectroscopy and level detuning of few-electron spin states in parallel InAs quantum dots. Physical Review B, 2018, 98, .	1.1	6
33	Branched InAs nanowire growth by droplet confinement. Applied Physics Letters, 2018, 113, 123104.	1.5	11
34	Tuning the Two-Electron Hybridization and Spin States in Parallel-Coupled InAs Quantum Dots. Physical Review Letters, 2018, 121, 156802.	2.9	14
35	Radial band bending at wurtziteâ€"zinc-blendeâ€"GaAs interfaces. Nano Futures, 2018, 2, 035002.	1.0	7
36	Kinetic Engineering of Wurtzite and Zinc-Blende AlSb Shells on InAs Nanowires. Nano Letters, 2018, 18, 5775-5781.	4.5	6

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37	Using Ultrathin Parylene Films as an Organic Gate Insulator in Nanowire Field-Effect Transistors. Nano Letters, 2018, 18, 4431-4439.	4.5	11
38	Bipolar Photothermoelectric Effect Across Energy Filters in Single Nanowires. Nano Letters, 2017, 17, 4055-4060.	4.5	32
39	Crystal Structure Induced Preferential Surface Alloying of Sb on Wurtzite/Zinc Blende GaAs Nanowires. Nano Letters, 2017, 17, 3634-3640.	4.5	14
40	Direct nucleation, morphology and compositional tuning of InAs_{1âˆ'<i>x</i>}Sb<i>_x</i>nanowires on InAs (111) B substrates. Nanotechnology, 2017, 28, 165601.	1.3	23
41	Conduction Band Offset and Polarization Effects in InAs Nanowire Polytype Junctions. Nano Letters, 2017, 17, 902-908.	4.5	34
42	Electronic Structure Changes Due to Crystal Phase Switching at the Atomic Scale Limit. ACS Nano, 2017, 11, 10519-10528.	7.3	15
43	Thermodynamic Stability of Gold-Assisted InAs Nanowire Growth. Journal of Physical Chemistry C, 2017, 121, 21678-21684.	1.5	11
44	Imaging Atomic Scale Dynamics on IIIâ€"V Nanowire Surfaces During Electrical Operation. Scientific Reports, 2017, 7, 12790.	1.6	5
45	Single-nanowire, low-bandgap hot carrier solar cells with tunable open-circuit voltage. Nanotechnology, 2017, 28, 434001.	1.3	17
46	Parallel-Coupled Quantum Dots in InAs Nanowires. Nano Letters, 2017, 17, 7847-7852.	4.5	27
47	Anti-Stokes photoluminescence probing k-conservation and thermalization of minority carriers in degenerately doped semiconductors. Nature Communications, 2017, 8, 1634.	5.8	6
48	Micro-Raman spectroscopy for the detection of stacking fault density in InAs and GaAs nanowires. Physical Review B, 2017, 96, .	1.1	6
49	Characterization of individual stacking faults in aÂwurtzite GaAs nanowire by nanobeam X-ray diffraction. Journal of Synchrotron Radiation, 2017, 24, 981-990.	1.0	9
50	Demonstration of Sn-seeded GaSb homo- and GaAsâ€"GaSb heterostructural nanowires. Nanotechnology, 2016, 27, 175602.	1.3	11
51	Nondestructive Complete Mechanical Characterization of Zinc Blende and Wurtzite GaAs Nanowires Using Time-Resolved Pumpâ€"Probe Spectroscopy. Nano Letters, 2016, 16, 4792-4798.	4.5	25
52	Sn-seeded GaAs nanowires grown by MOVPE. Nanotechnology, 2016, 27, 215603.	1.3	7
53	Electron-hole interactions in coupled InAs-GaSb quantum dots based on nanowire crystal phase templates. Physical Review B, 2016, 94, .	1.1	16
54	Structure reinvestigation of Î±-, Î²- and Î³-In₂S₃. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2016, 72, 410-415.	0.5	72

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55	Palladium seeded GaAs nanowires. Journal of Materials Research, 2016, 31, 175-185.	1.2	10
56	Confinement effects on Brillouin scattering in semiconductor nanowire photonic crystal. Physical Review B, 2016, 94, .	1.1	7
57	Single-electron transport in InAs nanowire quantum dots formed by crystal phase engineering. Physical Review B, 2016, 93, .	1.1	45
58	Can antimonide-based nanowires form wurtzite crystal structure?. Nanoscale, 2016, 8, 2778-2786.	2.8	20
59	Designed Quasi-1D Potential Structures Realized in Compositionally Graded InAs_{1â€“<i>x</i>}P_{<i>x</i>} Nanowires. Nano Letters, 2016, 16, 1017-1021.	4.5	8
60	Interface dynamics and crystal phase switching in GaAs nanowires. Nature, 2016, 531, 317-322.	13.7	272
61	Wurtzite GaAs Quantum Wires: One-Dimensional Subband Formation. Nano Letters, 2016, 16, 2774-2780.	4.5	23
62	The optical absorption in zincblende and wurtzite GaP nanowire polytypes. , 2015, , .		0
63	Optical response of wurtzite and zinc blende GaP nanowire arrays. Optics Express, 2015, 23, 30177.	1.7	12
64	Phase Transformation in Radially Merged Wurtzite GaAs Nanowires. Crystal Growth and Design, 2015, 15, 4795-4803.	1.4	27
65	Sn-Seeded GaAs Nanowires as Self-Assembled Radial <i>pâ€“n</i> Junctions. Nano Letters, 2015, 15, 3757-3762.	4.5	25
66	Selective GaSb radial growth on crystal phase engineered InAs nanowires. Nanoscale, 2015, 7, 10472-10481.	2.8	42
67	Confinement in Thickness-Controlled GaAs Polytype Nanodots. Nano Letters, 2015, 15, 2652-2656.	4.5	62
68	Atomic Scale Surface Structure and Morphology of InAs Nanowire Crystal Superlattices: The Effect of Epitaxial Overgrowth. ACS Applied Materials & Interfaces, 2015, 7, 5748-5755.	4.0	23
69	Carrier Recombination Dynamics in Sulfur-Doped InP Nanowires. Nano Letters, 2015, 15, 7238-7244.	4.5	26
70	Crystal phase control in GaAs nanowires: opposing trends in the Ga- and As-limited growth regimes. Nanotechnology, 2015, 26, 301001.	1.3	43
71	Photon upconversion in degenerately sulfur doped InP nanowires. Nanoscale, 2015, 7, 20503-20509.	2.8	1
72	Tunable absorption resonances in the ultraviolet for InP nanowire arrays. Optics Express, 2014, 22, 29204.	1.7	22

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73	Observation of type-II recombination in single wurtzite/zinc-blende GaAs heterojunction nanowires. Physical Review B, 2014, 89, .	1.1	60
74	Electronic and Structural Differences between Wurtzite and Zinc Blende InAs Nanowire Surfaces: Experiment and Theory. ACS Nano, 2014, 8, 12346-12355.	7.3	78
75	Crystal structure tuning in GaAs nanowires using HCl. Nanoscale, 2014, 6, 8257.	2.8	9
76	Crystal Phase-Dependent Nanophotonic Resonances in InAs Nanowire Arrays. Nano Letters, 2014, 14, 5650-5655.	4.5	26
77	Growth and characterization of wurtzite GaP nanowires with control over axial and radial growth by use of HCl in-situ etching. Journal of Crystal Growth, 2014, 386, 47-51.	0.7	32
78	Reliable wet-chemical cleaning of natively oxidized high-efficiency Cu(In,Ga)Se2 thin-film solar cell absorbers. Journal of Applied Physics, 2014, 116, .	1.1	38
79	Chalcopyrite Quantum Wells and Dots in Solar-Cell Applications. Springer Series in Materials Science, 2014, , 115-130.	0.4	1
80	A General Approach for Sharp Crystal Phase Switching in InAs, GaAs, InP, and GaP Nanowires Using Only Group V Flow. Nano Letters, 2013, 13, 4099-4105.	4.5	156
81	Large-energy-shift photon upconversion in degenerately doped InP nanowires by direct excitation into the electron gas. Nano Research, 2013, 6, 752-757.	5.8	6
82	Direct Imaging of Atomic Scale Structure and Electronic Properties of GaAs Wurtzite and Zinc Blende Nanowire Surfaces. Nano Letters, 2013, 13, 4492-4498.	4.5	63
83	Zincblendeâ€toâ€wurtzite interface improvement by group III loading in Auâ€seeded GaAs nanowires. Physica Status Solidi - Rapid Research Letters, 2013, 7, 855-859.	1.2	13
84	Growth of InAs/InP coreâ€"shell nanowires with various pure crystal structures. Nanotechnology, 2012, 23, 285601.	1.3	50
85	High crystal quality wurtzite-zinc blende heterostructures in metal-organic vapor phase epitaxy-grown GaAs nanowires. Nano Research, 2012, 5, 470-476.	5.8	51
86	Electronic properties of grain boundaries in Cu(In,Ga)Se2 thin films with various Ga-contents. Solar Energy Materials and Solar Cells, 2012, 103, 86-92.	3.0	22
87	Long-range structure of Cu(InxGa1â^ˆ'x)3Se5: A complementary neutron and anomalous x-ray diffraction study. Journal of Applied Physics, 2011, 109, 013518.	1.1	18
88	Tetrahedral chalcopyrite quantum dots for solar-cell applications. Applied Physics Letters, 2011, 99, .	1.5	14
89	Transport properties of CuGaSe2-based thin-film solar cells as a function of absorber composition. Thin Solid Films, 2011, 519, 7304-7307.	0.8	3
90	Chalcopyrite Semiconductors for Quantum Well Solar Cells. Advanced Energy Materials, 2011, 1, 1109-1115.	10.2	7

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91	PVT growth of GaN bulk crystals. Journal of Crystal Growth, 2011, 318, 406-410.	0.7	12
92	CuGa Se chalcopyrite-related thin films grown by chemical close-spaced vapor transport (CCSVT) for photovoltaic application: Surface- and bulk material properties, oxidation and surface Ge-doping. Solar Energy Materials and Solar Cells, 2011, 95, 1555-1580.	3.0	19
93	Parameter space mapping of InAs nanowire crystal structure. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 04D103.	0.6	43
94	Surface modification of polycrystalline Cu(In, Ga)Se<inf>2</inf> thin-film solar cell absorber surfaces for PEEM measurements. , 2011, , .		0
95	Optoelectronic evaluation of the nanostructuring approach to chalcopyrite-based intermediate band materials. Solar Energy Materials and Solar Cells, 2010, 94, 1912-1918.	3.0	14
96	Three-dimensional structure of the buffer/absorber interface in CdS/CuGaSe2 based thin film solar cells. Applied Physics Letters, 2009, 95, 173502.	1.5	25
97	Structural Properties of Chalcopyrite-related 1:3:5 Copper-poor Compounds and their Influence on Thin-film Devices. Materials Research Society Symposia Proceedings, 2009, 1165, 1.	0.1	3
98	Spatially resolved characterization of chemical species and crystal structures in CuInS₂ and CuGa<i>_x</i> Se<i>_y</i> thin films using Raman microscopy. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1013-1016.	0.8	16
99	Cu in In₂S₃: interdiffusion phenomena analysed by high kinetic energy Xâ€ray photoelectron spectroscopy. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1059-1062.	0.8	31
100	A structural study on the CuGaSe₂â€related copperâ€poor materials CuGa₃Se₅ and CuGa₅Se₈: thinâ€film vs. bulk material. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1009-1012.	0.8	11
101	Characterisation of Cu(In_{1â€“x}Ga_x)₅Se₈ by spectroscopic ellipsometry. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1078-1081.	0.8	5
102	Surface Cu depletion of Cu(In,Ga)Se2 films: An investigation by hard X-ray photoelectron spectroscopy. Acta Materialia, 2009, 57, 3645-3651.	3.8	68
103	Growth of isolated and embedded Cu-containing chalcopyrite clusters and nanocrystals by dry processing. Physical Review B, 2008, 77, .	1.1	6
104	The chemical and electronic surface and interface structure of CuGaSe2 thin-film solar cell absorbers. Applied Physics Letters, 2008, 93, 232104.	1.5	13
105	Growth and Characterization of Chalcopyrite Nanocrystals: Beyond Conventional Thin Films. Materials Research Society Symposia Proceedings, 2007, 1012, 1.	0.1	3
106	Tailoring the Work Function of Chalcopyrite Thin Films with Self-Assembled Monolayers of Thiols. Materials Research Society Symposia Proceedings, 2007, 1012, 1.	0.1	0
107	CuGaSe2â€“CuGa3Se5 phase transition in CCSVT-grown thin films. Thin Solid Films, 2006, 511-512, 623-627.	0.8	16
108	Intermixing at the heterointerface between ZnSâˆ•Zn(S,O) bilayer buffer and CuInS2 thin film solar cell absorber. Journal of Applied Physics, 2006, 100, 064911.	1.1	21

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109	The two-phase region in 2(ZnSe)x(CuInSe2)1â^'x alloys and structural relation between the tetragonal and cubic phases. Journal of Solid State Chemistry, 2005, 178, 3631-3638.	1.4	21
110	Band gap and interface engineering of wide gap Cu-containing chalcopyrite absorbers by dry (In,Ga)-S surface treatments. Materials Research Society Symposia Proceedings, 2005, 865, 1621.	0.1	0
111	Cd2+â^•NH3 treatment-induced formation of a CdSe surface layer on CuGaSe2 thin-film solar cell absorbers. Applied Physics Letters, 2005, 86, 222107.	1.5	19
112	Cd/sup 2+//NH/sub 3/-treatment of high-gap CuGaSe/sub 2/ thin film solar cell absorbers. , 0, , .		0
113	Improved CuGaSe/sub 2/-based solar cell performance by In-S surface treatments. , 0, , .		0