

Martina Luysberg

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127
papers

3,149
citations

29
h-index

52
g-index

137
ext. papers

3,567
ext. citations

4.9
avg, IF

4.66
L-index

#	Paper	IF	Citations
127	Lasing in direct-bandgap GeSn alloy grown on Si. <i>Nature Photonics</i> , 2015 , 9, 88-92	33.9	767
126	Quantitative atomic resolution mapping using high-angle annular dark field scanning transmission electron microscopy. <i>Ultramicroscopy</i> , 2009 , 109, 1236-44	3.1	167
125	Photochromic silver nanoparticles fabricated by sputter deposition. <i>Journal of Applied Physics</i> , 2005 , 97, 094305	2.5	98
124	Optimized fabrication of high-quality La _{0.67} Sr _{0.33} MnO ₃ thin films considering all essential characteristics. <i>Journal Physics D: Applied Physics</i> , 2011 , 44, 205001	3	92
123	Realization of a vertical topological p-n junction in epitaxial Sb ₂ Te ₃ /Bi ₂ Te ₃ heterostructures. <i>Nature Communications</i> , 2015 , 6, 8816	17.4	70
122	Electronic phase coherence in InAs nanowires. <i>Nano Letters</i> , 2011 , 11, 3550-6	11.5	63
121	Effect of helium ion implantation and annealing on the relaxation behavior of pseudomorphic Si _{1-x} Ge _x buffer layers on Si (100) substrates. <i>Journal of Applied Physics</i> , 2002 , 92, 4290-4295	2.5	61
120	Mode of Growth of Ultrathin Topological Insulator Bi ₂ Te ₃ Films on Si (111) Substrates. <i>Crystal Growth and Design</i> , 2012 , 12, 6098-6103	3.5	58
119	Molecular beam epitaxy growth of GaAs/InAs core-shell nanowires and fabrication of InAs nanotubes. <i>Nano Letters</i> , 2012 , 12, 5559-64	11.5	58
118	Amorphous ternary rare-earth gate oxides for future integration in MOSFETs. <i>Microelectronic Engineering</i> , 2009 , 86, 1646-1649	2.5	52
117	Strain relaxation in Fe ₃ O ₄ /MgAl ₂ O ₄ heterostructures: Mechanism for formation of antiphase boundaries in an epitaxial system with identical symmetries of film and substrate. <i>Physical Review B</i> , 2009 , 80,	3.3	51
116	Suppressing Twin Formation in Bi ₂ Se ₃ Thin Films. <i>Advanced Materials Interfaces</i> , 2014 , 1, 1400134	4.6	48
115	Suppressing Twin Domains in Molecular Beam Epitaxy Grown Bi ₂ Te ₃ Topological Insulator Thin Films. <i>Crystal Growth and Design</i> , 2015 , 15, 390-394	3.5	48
114	Microcrystalline silicon carbide alloys prepared with HWCVD as highly transparent and conductive window layers for thin film solar cells. <i>Thin Solid Films</i> , 2009 , 517, 3507-3512	2.2	47
113	BiTe is a dual topological insulator. <i>Nature Communications</i> , 2017 , 8, 14976	17.4	46
112	Unexpected Ge-Ge Contacts in the Two-Dimensional Ge Se Te Phase and Analysis of Their Chemical Cause with the Density of Energy (DOE) Function. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 10204-10208	16.4	45
111	FEI Tecnai G2 F20. <i>Journal of Large-scale Research Facilities JLSRF</i> , 2 ,		43

110	Anomalous strain relaxation behavior of Fe ₃ O ₄ /MgO (100) heteroepitaxial system grown using molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2006 , 100, 073908	2.5	42
109	Polarity-driven polytypic branching in Cu-based quaternary chalcogenide nanostructures. <i>ACS Nano</i> , 2014 , 8, 2290-301	16.7	41
108	Dysprosium scandate thin films as an alternate amorphous gate oxide prepared by metal-organic chemical vapor deposition. <i>Applied Physics Letters</i> , 2006 , 89, 232902	3.4	40
107	Electronic Properties of Microcrystalline Silicon. <i>Materials Research Society Symposia Proceedings</i> , 1997 , 467, 283		39
106	Reentrant mound formation in GaAs(001) homoepitaxy observed by ex situ atomic force microscopy. <i>Physical Review Letters</i> , 2000 , 84, 3358-61	7.4	38
105	Selective area growth and stencil lithography for in situ fabricated quantum devices. <i>Nature Nanotechnology</i> , 2019 , 14, 825-831	28.7	33
104	Electronic reconstruction at n-type SrTiO ₃ /LaAlO ₃ interfaces. <i>Physical Review B</i> , 2010 , 81,	3.3	32
103	Illumination effects in holographic imaging of the electrostatic potential of defects and pn junctions in transmission electron microscopy. <i>Physical Review B</i> , 2004 , 70,	3.3	32
102	Atomic structure of (110) anti-phase boundaries in GaP on Si(001). <i>Applied Physics Letters</i> , 2013 , 103, 032107	3.4	31
101	Liquid Injection MOCVD of Dysprosium Scandate Films. <i>Journal of the Electrochemical Society</i> , 2007 , 154, G147	3.9	30
100	Rare-earth scandate single- and multi-layer thin films as alternative gate oxides for microelectronic applications. <i>Microelectronic Engineering</i> , 2005 , 80, 150-153	2.5	30
99	PN Junctions in Ultrathin Topological Insulator Sb ₂ Te ₃ /Bi ₂ Te ₃ Heterostructures Grown by Molecular Beam Epitaxy. <i>Crystal Growth and Design</i> , 2016 , 16, 2057-2061	3.5	29
98	Microcrystalline silicon carbide window layers in thin film silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2012 , 98, 370-378	6.4	29
97	A silicon carbide-based highly transparent passivating contact for crystalline silicon solar cells approaching efficiencies of 24%. <i>Nature Energy</i> , 2021 , 6, 529-537	62.3	29
96	Magnetic heating properties and neutron activation of tungsten-oxide coated biocompatible FePt core-shell nanoparticles. <i>Journal of Controlled Release</i> , 2015 , 197, 131-7	11.7	28
95	Light-induced modification of a-SiO _x II: Laser crystallization. <i>Journal of Applied Physics</i> , 2004 , 95, 4060-4068		28
94	The Low Toxicity of Graphene Quantum Dots is Reflected by Marginal Gene Expression Changes of Primary Human Hematopoietic Stem Cells. <i>Scientific Reports</i> , 2019 , 9, 12028	4.9	27
93	Degradation mechanisms of 2 MeV proton irradiated AlGaIn/GaN HEMTs. <i>Applied Physics Letters</i> , 2015 , 107, 083504	3.4	26

92	Homogeneity and variation of donor doping in Verneuil-grown SrTiO ₃ :Nb single crystals. <i>Scientific Reports</i> , 2016 , 6, 32250	4.9	25
91	Defect Control in As-Rich GaAs. <i>Materials Science Forum</i> , 1997 , 258-263, 951-956	0.4	24
90	Interface Engineering to Create a Strong Spin Filter Contact to Silicon. <i>Scientific Reports</i> , 2016 , 6, 22912	4.9	23
89	FEI Titan 80-300 STEM. <i>Journal of Large-scale Research Facilities JLSRF</i> , 2,		23
88	Uptake dynamics of graphene quantum dots into primary human blood cells following in vitro exposure. <i>RSC Advances</i> , 2017 , 7, 12208-12216	3.7	22
87	Properties of evaporated titanium thin films and their possible application in single electron devices. <i>Thin Solid Films</i> , 2003 , 436, 168-174	2.2	21
86	Annealing of nm-thin Si _{1-x} C _x /SiC multilayers. <i>Solar Energy Materials and Solar Cells</i> , 2013 , 115, 11-20	6.4	20
85	Observation of spin filtering in magnetic insulator contacts to silicon. <i>Applied Physics Letters</i> , 2011 , 98, 142503	3.4	20
84	Intermixing and charge neutrality at DyScO ₃ /SrTiO ₃ interfaces. <i>Acta Materialia</i> , 2009 , 57, 3192-3198	8.4	20
83	Microstructure of Nanocrystalline Yttria-Doped Zirconia Thin Films Obtained by Sol-Gel Processing. <i>Journal of the American Ceramic Society</i> , 2008 , 91, 2281-2289	3.8	20
82	Polyoxometalate-stabilized, water dispersible FePt magnetic nanoparticles. <i>Nanoscale</i> , 2013 , 5, 2511-9	7.7	19
81	Domain formation due to surface steps in topological insulator Bi ₂ Te ₃ thin films grown on Si (111) by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2013 , 103, 081902	3.4	19
80	High mobility compressive strained Si _{0.5} Ge _{0.5} quantum well p-MOSFETs with higher-k/metal-gate. <i>Solid-State Electronics</i> , 2011 , 62, 185-188	1.7	19
79	Microtwinning in microcrystalline silicon and its effect on grain-size measurements. <i>Physical Review B</i> , 2003 , 67,	3.3	19
78	Magnetic and structural properties of GaN thin layers implanted with Mn, Cr, or V ions. <i>Journal of Applied Physics</i> , 2004 , 96, 5663-5667	2.5	18
77	Mn valency at La _{0.7} Sr _{0.3} MnO ₃ /SrTiO ₃ (0 0 1) thin film interfaces. <i>Microscopy and Microanalysis</i> , 2009 , 15, 213-21	0.5	17
76	Growth and Structure of Microcrystalline Silicon Prepared with Glow Discharge at Various Plasma Excitation Frequencies. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 452, 725		17
75	Enhanced exchange bias due to an ultra-thin, non-magnetic insulator spacer layer. <i>Europhysics Letters</i> , 2004 , 68, 233-239	1.6	16

74	Structural Properties of Microcrystalline Si Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , 2001 , 664, 1521		16
73	A Small Spot, Inert Gas, Ion Milling Process as a Complementary Technique to Focused Ion Beam Specimen Preparation. <i>Microscopy and Microanalysis</i> , 2017 , 23, 782-793	0.5	14
72	Reduction of silicon dioxide interfacial layer to 4.6 nm EOT by Al remote scavenging in high- γ metal gate stacks on Si. <i>Microelectronic Engineering</i> , 2013 , 109, 109-112	2.5	14
71	Si/SiGe n-MODFETs on thin SiGe virtual substrates prepared by means of He implantation. <i>IEEE Electron Device Letters</i> , 2002 , 23, 485-487	4.4	14
70	Structural improvement of zinc oxide films produced by ion beam assisted reactive sputtering. <i>Journal Physics D: Applied Physics</i> , 2010 , 43, 205301	3	13
69	Highly textured zinc oxide films by room temperature ion beam assisted deposition. <i>Physica Status Solidi - Rapid Research Letters</i> , 2009 , 3, 236-238	2.5	13
68	Quantitative pressure and strain field analysis of helium precipitates in silicon. <i>Journal of Materials Science</i> , 2006 , 41, 4454-4465	4.3	13
67	Doped microcrystalline silicon oxide alloys for silicon-based photovoltaics: Optoelectronic properties, chemical composition, and structure studied by advanced characterization techniques. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016 , 213, 1814-1820	1.6	13
66	A Mössbauer spectral study of degradation in La _{0.58} Sr _{0.4} Fe _{0.5} Co _{0.5} O ₃ after long-term operation in solid oxide electrolysis cells. <i>Solid State Ionics</i> , 2017 , 312, 38-43	3.3	12
65	Sonochemical synthesis of hydrogenated amorphous silicon nanoparticles from liquid trisilane at ambient temperature and pressure. <i>Ultrasonics Sonochemistry</i> , 2017 , 39, 883-888	8.9	11
64	Chalcogenide-based van der Waals epitaxy: Interface conductivity of tellurium on Si(111). <i>Physical Review B</i> , 2017 , 96,	3.3	10
63	Direct gas-phase synthesis of single-phase FeSi ₂ nanoparticles. <i>Journal of Nanoparticle Research</i> , 2013 , 15, 1	2.3	9
62	High frequency n-type MODFETs on ultra-thin virtual SiGe substrates. <i>Solid-State Electronics</i> , 2003 , 47, 1179-1182	1.7	9
61	Partial magnetic ordering in one-dimensional arrays of endofullerene single-molecule magnet peapods. <i>Nanoscale</i> , 2018 , 10, 18153-18160	7.7	8
60	Structure of grains and grain boundaries in cryo-mechanically processed Ti alloy. <i>Journal of Materials Science</i> , 2013 , 48, 4592-4598	4.3	8
59	Observation of antiferromagnetic coupling in epitaxial ferrite films. <i>Physical Review B</i> , 2006 , 74,	3.3	8
58	Quantitative transmission electron microscopy analysis of the pressure of helium-filled cracks in implanted silicon. <i>Microscopy and Microanalysis</i> , 2004 , 10, 199-214	0.5	8
57	Nondestructive Method for the Determination of the Electric Polarization Orientation in Thin Films: Illustration on Gallium Ferrite Thin Films. <i>Small Methods</i> , 2017 , 1, 1700234	12.8	7

56	Microstructure of hydrogenated silicon carbide thin films prepared by chemical vapour deposition techniques. <i>Journal of Non-Crystalline Solids</i> , 2012 , 358, 2011-2014	3.9	7
55	Structure and electronic properties of β -SiC:H for photovoltaic applications. <i>Journal of Physics: Conference Series</i> , 2011 , 326, 012019	0.3	7
54	First-principles study of intermixing and polarization at the DyScO ₃ /SrTiO ₃ interface. <i>Physical Review B</i> , 2012 , 85,	3.3	7
53	Anisotropy of strain relaxation in (100) and (110) Si/SiGe heterostructures. <i>Journal of Applied Physics</i> , 2012 , 111, 014904	2.5	7
52	Vacancy Defects in Low-Temperature-Grown GaAs Observed by Continuous and Pulsed Slow Positrons. <i>Materials Science Forum</i> , 1997 , 255-257, 204-208	0.4	7
51	Direct compositional analysis of AlGaAs/GaAs heterostructures by the reciprocal space segmentation of high-resolution micrographs. <i>Ultramicroscopy</i> , 2002 , 93, 123-37	3.1	7
50	Structural investigation and growth of <n>-type microcrystalline silicon prepared at different plasma excitation frequencies. <i>Journal of Non-Crystalline Solids</i> , 1996 , 198-200, 927-930	3.9	7
49	Novel self-epitaxy for inducing superconductivity in the topological insulator (Bi _{1-x} Sb _x) ₂ Te ₃ . <i>Physical Review Materials</i> , 2020 , 4,	3.2	7
48	Polymorphous GdScO ₃ as high permittivity dielectric. <i>Journal of Alloys and Compounds</i> , 2015 , 651, 514-520	3.7	6
47	Atomic layer deposition and high-resolution electron microscopy characterization of nickel nanoparticles for catalyst applications. <i>Surface and Coatings Technology</i> , 2016 , 307, 428-435	4.4	6
46	Structural and electronic properties of β -FeSi ₂ nanoparticles: The role of stacking fault domains. <i>Physical Review B</i> , 2014 , 89,	3.3	6
45	Fabrication, characterization and modeling of strained SOI MOSFETs with very large effective mobility 2007 ,		6
44	Strain relaxation in LT-GaAs by the agglomeration of As antisites. <i>Physica B: Condensed Matter</i> , 2003 , 340-342, 293-298	2.8	6
43	Electrical and Structural Properties of LT-GaAs: Influence of As/Ga Flux Ratio and Growth Temperature. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 442, 485		6
42	Defect Formation During Zn Diffusion into GaAs. <i>Materials Research Society Symposia Proceedings</i> , 1989 , 163, 659		6
41	Hexagonal GdScO ₃ : an epitaxial high- ϵ dielectric for GaN. <i>Semiconductor Science and Technology</i> , 2014 , 29, 075005	1.8	5
40	Electrical and Structural Properties of Ternary Rare-Earth Oxides on Si and Higher Mobility Substrates and their Integration as High-k Gate Dielectrics in MOSFET Devices. <i>ECS Transactions</i> , 2011 , 35, 461-479	1	5
39	From Thin Relaxed SiGe Buffer Layers to Strained Silicon Directly on Oxide. <i>ECS Transactions</i> , 2006 , 3, 1047-1055	1	5

38	HRTEM investigation of the epitaxial growth of scandate/titanate multilayers. <i>Journal of Materials Science</i> , 2006 , 41, 4434-4439	4.3	5
37	Phase-Pure Wurtzite GaAs Nanowires Grown by Self-Catalyzed Selective Area Molecular Beam Epitaxy for Advanced Laser Devices and Quantum Disks. <i>ACS Applied Nano Materials</i> , 2020 , 3, 11037-11047	5.6	5
36	Structural characterization of bulk and nanoparticle lead halide perovskite thin films by (S)TEM techniques. <i>Nanotechnology</i> , 2019 , 30, 135701	3.4	5
35	Signatures of induced superconductivity in AlO _x -capped topological heterostructures. <i>Solid-State Electronics</i> , 2019 , 155, 111-116	1.7	4
34	Proximity-Effect-Induced Superconductivity in Nb/Sb ₂ Te ₃ -Nanoribbon/Nb Junctions. <i>Annalen Der Physik</i> , 2020 , 532, 2000273	2.6	4
33	LaLuO ₃ higher- ϵ dielectric integration in SOI MOSFETs with a gate-first process. <i>Solid-State Electronics</i> , 2012 , 71, 19-24	1.7	4
32	Pretreatment of glass substrates by Ar/O ₂ ion beams for the as-sputtered rough Al doped zinc oxide thin films. <i>Surface and Coatings Technology</i> , 2011 , 205, S223-S228	4.4	4
31	Non-selective thin SiGe strain-relaxed buffer layers: Growth and carbon-induced relaxation. <i>Thin Solid Films</i> , 2006 , 508, 260-265	2.2	4
30	Cubic GaN/AlN multi-quantum wells grown on pre-patterned 3C-SiC/Si (001). <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2014 , 11, 265-268		3
29	Nanoscale x-ray investigation of magnetic metallofullerene peapods. <i>Nanotechnology</i> , 2017 , 28, 435703	3.4	3
28	(Invited) Failure Mechanisms in AlGaN/GaN HEMTs Irradiated with 2MeV Protons. <i>ECS Transactions</i> , 2015 , 66, 15-20	1	3
27	Hexagonal LaLuO ₃ as high- ϵ dielectric. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2015 , 33, 01A104	1.3	3
26	Influence of silicon doping on the SA-MOVPE of InAs nanowires. <i>Materials Research Society Symposia Proceedings</i> , 2010 , 1258, 1		3
25	Microstructure evolution effects of helium redistribution in as-implanted silicon and Si _{0.8} Ge _{0.2} /Si heterostructures. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2004 , 219-220, 703-707	1.2	3
24	Incorporation and thermal stability of defects in highly p-conductive non-stoichiometric GaAs:Be. <i>Physica B: Condensed Matter</i> , 2001 , 308-310, 808-811	2.8	3
23	Conduction in nonstoichiometric molecular-beam epitaxial GaAs grown above the critical thickness. <i>Applied Physics Letters</i> , 1998 , 72, 1851-1853	3.4	3
22	Impact of beryllium dopants on the stability of LT-grown AlAs/GaAs:Be heterostructures against thermally activated intermixing. <i>Thin Solid Films</i> , 2003 , 437, 74-82	2.2	2
21	Agglomeration of As antisites in As-rich low-temperature GaAs: nucleation without a critical nucleus size. <i>Physical Review Letters</i> , 2005 , 95, 125502	7.4	2

20	Control of stoichiometry dependent defects in low temperature GaAs		2
19	Structural Investigation of Microcrystalline Silicon. <i>Materials Science Forum</i> , 1994 , 173-174, 249-254	0.4	2
18	Antiferromagnetic Interlayer Exchange Coupling Across Epitaxial Si Spacers. <i>Springer Series in Materials Science</i> , 2007 , 133-145	0.9	2
17	Lanthanum Lutetium oxide integration in a gate-first process on SOI MOSFETs 2011 ,		1
16	Strain-induced shift of the crystal-field splitting of SrTiO ₃ embedded in scandate multilayers. <i>ACS Applied Materials & Interfaces</i> , 2011 , 3, 1545-51	9.5	1
15	Large Grain Size and High Deposition Rate for Microcrystalline Silicon Prepared by VHF-GD. <i>Materials Research Society Symposia Proceedings</i> , 1994 , 358, 745		1
14	Optimizing Experimental Conditions for Accurate Quantitative Energy-Dispersive X-ray Analysis of Interfaces at the Atomic Scale. <i>Microscopy and Microanalysis</i> , 2021 , 1-15	0.5	1
13	Flux periodic oscillations and phase-coherent transport in GeTe nanowire-based devices. <i>Nature Communications</i> , 2021 , 12, 754	17.4	1
12	Topological insulator Sb ₂ Te ₃ /Bi ₂ Te ₃ heterostructures: structural properties 2016 , 1084-1085		
11	Nanosession: High-Resolution Transmission Electron Microscopy 2013 , 133-141		
10	Atomic Scale Compositions Across DyScO ₃ /SrTiO ₃ Interfaces. <i>Microscopy and Microanalysis</i> , 2009 , 15, 1012-1013	0.5	
9	Nucleation and Movement of Dislocations during Relaxation of He Implanted SixGe _{1-x} /Six Heterostructures. <i>ECS Transactions</i> , 2006 , 3, 1039-1046		1
8	Structure and electronic properties of scandate/titanate multilayers determined by high-resolution TEM/STEM and EELS. <i>Microscopy and Microanalysis</i> , 2007 , 13, 368-369	0.5	
7	Frontiers of Electron Microscopy in Materials Science 2005. <i>Journal of Materials Science</i> , 2006 , 41, 4377-4381		1
6	Magnetic Properties of GaN Layers Implanted by Mn, Cr or V.. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 825, G5.3.1		
5	Carbon incorporation during growth of GaAs at low temperatures. <i>Physica B: Condensed Matter</i> , 2001 , 308-310, 823-826		2.8
4	Electrical And Microscopic Investigation Of E-Gun Evaporated Titanium Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 615, 651		
3	Strain Relaxation of He ⁺ Implanted, Pseudomorphic Si _{1-x} Ge _x Layers on Si(100). <i>Materials Research Society Symposia Proceedings</i> , 2001 , 696, 1		

- 2 Strain relaxation of SiGe/Si heterostructures by helium ion implantation and subsequent annealing: Helium precipitates acting as dislocation sources. *Springer Proceedings in Physics*, **2005**, 97-102 0.2
- 1 Nanosession: 2D Electron Systems - Atomic Configurations 69-80