Mantu Hudait

List of Publications by Year in Descending Order

Source: https://exaly.com/author-pdf/7080016/mantu-hudait-publications-by-year.pdf

Version: 2024-04-28

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

109
papers2,680
citations28
h-index47
g-index124
ext. papers2,993
ext. citations3.8
avg, IF4.98
L-index

#	Paper	IF	Citations
109	Mapping the Interfacial Electronic Structure of Strain-Engineered Epitaxial Germanium Grown on In Al As Stressors <i>ACS Omega</i> , 2022 , 7, 5946-5953	3.9	Ο
108	Design, Theoretical, and Experimental Investigation of Tensile-Strained Germanium Quantum-Well Laser Structure. <i>ACS Applied Electronic Materials</i> , 2021 , 3, 4535-4547	4	2
107	Device Characterization of a Sulfur-Implanted p\$^{++}\$/p GaSb Photovoltaic Camel Diode. <i>IEEE Journal of Photovoltaics</i> , 2020 , 10, 1675-1680	3.7	1
106	Tri-gate GaN junction HEMT. Applied Physics Letters, 2020 , 117, 143506	3.4	12
105	Magnetic Damping in Epitaxial Iron Alloyed with Vanadium and Aluminum. <i>Physical Review Applied</i> , 2020 , 14,	4.3	6
104	Structural, morphological and magnetotransport properties of composite semiconducting and semimetallic InAs/GaSb superlattice structure. <i>Materials Advances</i> , 2020 , 1, 1099-1112	3.3	1
103	Electronic and optical properties of highly boron-doped epitaxial Ge/AlAs(001) heterostructures. <i>Journal of Applied Physics</i> , 2020 , 127, 075702	2.5	O
102	Engineering the Interfacial Electronic Structure of Epitaxial Ge/AlAs(001) Heterointerfaces via Substitutional Boron Incorporation: The Roles of Doping and Interface Stoichiometry. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 2646-2654	4	2
101	TBAL: Tunnel FET-Based Adiabatic Logic for Energy-Efficient, Ultra-Low Voltage IoT Applications. <i>IEEE Journal of the Electron Devices Society</i> , 2019 , 7, 210-218	2.3	10
100	Magnetic Field Sensing by Exploiting Giant Nonstrain-Mediated Magnetodielectric Response in Epitaxial Composites. <i>Nano Letters</i> , 2018 , 18, 2835-2843	11.5	10
99	Metal work function engineering on epitaxial (100)Ge and (110)Ge metal-oxide-semiconductor devices. <i>Microelectronic Engineering</i> , 2018 , 199, 80-86	2.5	3
98	Nonlinear DC equivalent circuits for ferroelectric memristor and Its FSM application. <i>Integrated Ferroelectrics</i> , 2018 , 192, 16-27	0.8	3
97	In Situ SiO Passivation of Epitaxial (100) and (110)InGaAs by Exploiting TaSiO Atomic Layer Deposition Process. <i>ACS Omega</i> , 2018 , 3, 14567-14574	3.9	2
96	Heterogeneous integration of InAs/GaSb tunnel diode structure on silicon using 200 nm GaAsSb dislocation filtering buffer. <i>AIP Advances</i> , 2018 , 8, 105108	1.5	1
95	Structural and optical properties of sulfur passivated epitaxial step-graded GaAs1-ySby materials. <i>AIP Advances</i> , 2018 , 8, 115119	1.5	2
94	Direct and indirect band gaps in Ge under biaxial tensile strain investigated by photoluminescence and photoreflectance studies. <i>Physical Review B</i> , 2018 , 97,	3.3	9
93	An Energy-Efficient Tensile-Strained Ge/InGaAs TFET 7T SRAM Cell Architecture for Ultralow-Voltage Applications. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 2193-2200	2.9	22

(2015-2017)

92	Investigating FinFET Sidewall Passivation Using Epitaxial (100)Ge and (110)Ge Metal®xideBemiconductor Devices on AlAs/GaAs. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 4457-	4465	3
91	Growth, structural, and electrical properties of germanium-on-silicon heterostructure by molecular beam epitaxy. <i>AIP Advances</i> , 2017 , 7, 095214	1.5	13
90	The permittivity and refractive index measurements of doped barium titanate (BT-BCN). <i>Optical Materials</i> , 2017 , 73, 793-798	3.3	7
89	Band Offset Enhancement of a-Al2O3/Tensile-Ge for High Mobility Nanoscale pMOS Devices. <i>IEEE Electron Device Letters</i> , 2017 , 38, 1196-1199	4.4	4
88	Transport Across Heterointerfaces of Amorphous Niobium Oxide and Crystallographically Oriented Epitaxial Germanium. <i>ACS Applied Materials & Amp; Interfaces</i> , 2017 , 9, 43315-43324	9.5	2
87	Performance Analysis of TaSiOx Inspired Sub-10 nm Energy Efficient In0.53Ga0.47As Quantum Well Tri-Gate Technology. <i>IEEE Journal of the Electron Devices Society</i> , 2017 , 5, 496-503	2.3	
86	Pushing the limits of silicon transistors 2016 ,		1
85	Heterogeneously grown tunable group-IV laser on silicon 2016,		2
84	Growth and characterization of metamorphic InAs/GaSb tunnel heterojunction on GaAs by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2016 , 119, 244308	2.5	7
83	2016,		2
83	2016, Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494	4.9	32
	Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory		
82	Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494 Lead-free epitaxial ferroelectric material integration on semiconducting (100) Nb-doped SrTiO3 for		32
82	Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494 Lead-free epitaxial ferroelectric material integration on semiconducting (100) Nb-doped SrTiO3 for low-power non-volatile memory and efficient ultraviolet ray detection. <i>Scientific Reports</i> , 2015 , 5, 12415 Heteroepitaxial Ge MOS Devices on Si Using Composite AlAs/GaAs Buffer. <i>IEEE Journal of the</i>	54.9	32
82 81 80	Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494 Lead-free epitaxial ferroelectric material integration on semiconducting (100) Nb-doped SrTiO3 for low-power non-volatile memory and efficient ultraviolet ray detection. <i>Scientific Reports</i> , 2015 , 5, 12415 Heteroepitaxial Ge MOS Devices on Si Using Composite AlAs/GaAs Buffer. <i>IEEE Journal of the Electron Devices Society</i> , 2015 , 3, 341-348 Integration of SrTiO3 on crystallographically oriented epitaxial germanium for low-power device	2.3	32 34 11
82 81 80	Integration of lead-free ferroelectric on HfO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494 Lead-free epitaxial ferroelectric material integration on semiconducting (100) Nb-doped SrTiO3 for low-power non-volatile memory and efficient ultraviolet ray detection. <i>Scientific Reports</i> , 2015 , 5, 12415 Heteroepitaxial Ge MOS Devices on Si Using Composite AlAs/GaAs Buffer. <i>IEEE Journal of the Electron Devices Society</i> , 2015 , 3, 341-348 Integration of SrTiO3 on crystallographically oriented epitaxial germanium for low-power device applications. <i>ACS Applied Materials & Devices</i> , 2015 , 7, 5471-9 Functionally Graded Interfaces: Role and Origin of Internal Electric Field and Modulated Electrical	2.3 9.5	32 34 11 20
82 81 80 79 78	Integration of lead-free ferroelectric on HFO2/Si (100) for high performance non-volatile memory applications. <i>Scientific Reports</i> , 2015 , 5, 8494 Lead-free epitaxial ferroelectric material integration on semiconducting (100) Nb-doped SrTiO3 for low-power non-volatile memory and efficient ultraviolet ray detection. <i>Scientific Reports</i> , 2015 , 5, 12415 Heteroepitaxial Ge MOS Devices on Si Using Composite AlAs/GaAs Buffer. <i>IEEE Journal of the Electron Devices Society</i> , 2015 , 3, 341-348 Integration of SrTiO3 on crystallographically oriented epitaxial germanium for low-power device applications. <i>ACS Applied Materials & Devices</i> , 2015 , 7, 5471-9 Functionally Graded Interfaces: Role and Origin of Internal Electric Field and Modulated Electrical Response. <i>ACS Applied Materials & Devices</i> , 2015 , 7, 22458-68 Magnetotransport Properties of Epitaxial Ge/AlAs Heterostructures Integrated on GaAs and	2.3 9.5	32 34 11 20

74	Tailoring the Valence Band Offset of Al2O3 on Epitaxial GaAs(1-y)Sb(y) with Tunable Antimony Composition. <i>ACS Applied Materials & Materia</i>	9.5	16
73	Heterogeneously-Grown Tunable Tensile Strained Germanium on Silicon for Photonic Devices. <i>ACS Applied Materials & Devices, 2015</i> , 7, 26470-81	9.5	14
72	Mixed-anion GaAs1IJSby graded buffer heterogeneously integrated on Si by molecular beam epitaxy. <i>Applied Physics Express</i> , 2015 , 8, 025501	2.4	4
71	Heterointerface engineering of broken-gap InAs/GaSb multilayer structures. <i>ACS Applied Materials</i> & amp; Interfaces, 2015 , 7, 2512-7	9.5	17
70	Reliability Studies on High-Temperature Operation of Mixed As/Sb Staggered Gap Tunnel FET Material and Devices. <i>IEEE Transactions on Device and Materials Reliability</i> , 2014 , 14, 245-254	1.6	25
69	Tensile-strained nanoscale Ge/In0.16Ga0.84As heterostructure for tunnel field-effect transistor. <i>ACS Applied Materials & Discrete Section 2014</i> , 6, 4947-53	9.5	7
68	Reduced erbium-doped ceria nanoparticles: one nano-host applicable for simultaneous optical down- and up-conversions. <i>Nanoscale Research Letters</i> , 2014 , 9, 231	5	29
67	Heterogeneous integration of epitaxial Ge on Si using AlAs/GaAs buffer architecture: suitability for low-power fin field-effect transistors. <i>Scientific Reports</i> , 2014 , 4, 6964	4.9	22
66	Design and Modeling of Metamorphic Dual-Junction InGaP/GaAs Solar Cells on Si Substrate for Concentrated Photovoltaic Application. <i>IEEE Journal of Photovoltaics</i> , 2014 , 4, 1683-1689	3.7	7
65	Germanium Based Field-Effect Transistors: Challenges and Opportunities. <i>Materials</i> , 2014 , 7, 2301-233	9 3.5	96
64	Growth, strain relaxation properties and high-Idielectric integration of mixed-anion GaAs1-ySby metamorphic materials. <i>Journal of Applied Physics</i> , 2014 , 116, 134304	2.5	4
63	IIIIV Multijunction Solar Cell Integration with Silicon: Present Status, Challenges and Future Outlook. <i>Energy Harvesting and Systems</i> , 2014 , 1,	4.4	41
62	Interfacial band alignment and structural properties of nanoscale TiO2 thin films for integration with epitaxial crystallographic oriented germanium. <i>Journal of Applied Physics</i> , 2014 , 115, 024303	2.5	11
61	X-ray photoelectron spectroscopy analysis and band offset determination of CeO2 deposited on epitaxial (100), (110), and (111)Ge. <i>Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics</i> , 2014 , 32, 011217	1.3	33
60	Design, fabrication, and analysis of p-channel arsenide/antimonide hetero-junction tunnel transistors. <i>Journal of Applied Physics</i> , 2014 , 115, 044502	2.5	17
59	Quasi-zero lattice mismatch and band alignment of BaTiO3 on epitaxial (110)Ge. <i>Journal of Applied Physics</i> , 2013 , 114, 024303	2.5	7
58	Structural and band alignment properties of Al2O3 on epitaxial Ge grown on (100), (110), and (111)A GaAs substrates by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2013 , 113, 134311	2.5	28
57	Ultra-high frequency photoconductivity decay in GaAs/Ge/GaAs double heterostructure grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2013 , 102, 093119	3.4	0

(2012-2013)

56	Energy band alignment of atomic layer deposited HfO2 on epitaxial (110)Ge grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2013 , 102, 093109	3.4	11	
55	BaTiO3 integration with nanostructured epitaxial (100), (110), and (111) germanium for multifunctional devices. <i>ACS Applied Materials & mp; Interfaces</i> , 2013 , 5, 11446-52	9.5	10	
54	Impact of Threading Dislocations on the Design of GaAs and InGaP/GaAs Solar Cells on Si Using Finite Element Analysis. <i>IEEE Journal of Photovoltaics</i> , 2013 , 3, 528-534	3.7	26	
53	Low-power tunnel field effect transistors using mixed As and Sb based heterostructures. <i>Nanotechnology Reviews</i> , 2013 , 2, 637-678	6.3	28	
52	Energy band alignment of atomic layer deposited HfO2 oxide film on epitaxial (100)Ge, (110)Ge, and (111)Ge layers. <i>Journal of Applied Physics</i> , 2013 , 113, 114303	2.5	18	
51	Band offset determination of mixed As/Sb type-II staggered gap heterostructure for n-channel tunnel field effect transistor application. <i>Journal of Applied Physics</i> , 2013 , 113, 024319	2.5	17	
50	Structural, morphological, and defect properties of metamorphic In0.7Ga0.3As/GaAs0.35Sb0.65 p-type tunnel field effect transistor structure grown by molecular beam epitaxy. <i>Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics</i> , 2013 , 31, 041203	1.3	9	
49	Structural, morphological, and band alignment properties of GaAs/Ge/GaAs heterostructures on (100), (110), and (111)A GaAs substrates. <i>Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics</i> , 2013 , 31, 011206	1.3	28	
48	CLY characteristics of epitaxial germanium metal Dxide Bemiconductor capacitor on GaAs substrate with ALD Al2O3 dielectric. <i>Microelectronic Engineering</i> , 2012 , 97, 16-19	2.5	4	
47	In situ grown Ge in an arsenic-free environment for GaAs/Ge/GaAs heterostructures on off-oriented (100) GaAs substrates using molecular beam epitaxy. <i>Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics</i> , 2012 , 30, 051205	1.3	18	
46	Barrier-Engineered ArsenideAntimonide Heterojunction Tunnel FETs With Enhanced Drive Current. <i>IEEE Electron Device Letters</i> , 2012 , 33, 1568-1570	4.4	74	
45	Role of InAs and GaAs terminated heterointerfaces at source/channel on the mixed As-Sb staggered gap tunnel field effect transistor structures grown by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2012 , 112, 024306	2.5	25	
44	Defect assistant band alignment transition from staggered to broken gap in mixed As/Sb tunnel field effect transistor heterostructure. <i>Journal of Applied Physics</i> , 2012 , 112, 094312	2.5	25	
43	Structural properties and band offset determination of p-channel mixed As/Sb type-II staggered gap tunnel field-effect transistor structure. <i>Applied Physics Letters</i> , 2012 , 101, 112106	3.4	16	
42	Design of metamorphic dual-junction InGaP/GaAs solar cell on Si with efficiency greater than 29% using finite element analysis 2012 ,		1	
41	(Invited) Heterogeneously Integrated III-V on Silicon for Future Nanoelectronics. <i>ECS Transactions</i> , 2012 , 45, 581-594	1	14	
40	Demonstration of improved heteroepitaxy, scaled gate stack and reduced interface states enabling heterojunction tunnel FETs with high drive current and high on-off ratio 2012 ,		43	
39	Effect of Postdeposition Annealing Temperatures on Electrical Characteristics of Molecular-Beam-Deposited HfO\$_{2}\$ on n-InAs/InGaAs MetalDxideBemiconductor Capacitors. Applied Physics Express, 2012, 5, 021104	2.4	17	

38	High quality Ge thin film grown by ultrahigh vacuum chemical vapor deposition on GaAs substrate. <i>Applied Physics Letters</i> , 2011 , 98, 161905	3.4	26
37	Dislocation reduction in GaN film using Ga-lean GaN buffer layer and migration enhanced epitaxy. <i>Thin Solid Films</i> , 2011 , 519, 6208-6213	2.2	14
36	(Invited) Si, SiGe, Ge, and III-V Semiconductor Nanomembranes and Nanowires Enabled by SiGe Epitaxy. <i>ECS Transactions</i> , 2010 , 33, 777-789	1	4
35	The Roles of Threading Dislocations on Electrical Properties of AlGaN/GaN Heterostructure Grown by MBE. <i>Journal of the Electrochemical Society</i> , 2010 , 157, H746	3.9	50
34	Fermi level unpinning of GaSb (100) using plasma enhanced atomic layer deposition of Al2O3. <i>Applied Physics Letters</i> , 2010 , 97, 143502	3.4	86
33	The influences of surface treatment and gas annealing conditions on the inversion behaviors of the atomic-layer-deposition Al2O3/n-In0.53Ga0.47As metal-oxide-semiconductor capacitor. <i>Applied Physics Letters</i> , 2010 , 97, 042903	3.4	92
32	Study of the inversion behaviors of Al2O3/InxGa1NAs metalDxideRemiconductor capacitors with different In contents. <i>Solid-State Electronics</i> , 2010 , 54, 37-41	1.7	17
31	Strain relaxation properties of InAsyP1 metamorphic materials grown on InP substrates. <i>Journal of Applied Physics</i> , 2009 , 105, 061643	2.5	41
30	Surface Preparation and Passivation of III-V Substrates for Future Ultra-High Speed, Low Power Logic Applications. <i>Solid State Phenomena</i> , 2009 , 145-146, 165-167	0.4	
29	Metamorphic In0.7Al0.3As/In0.69Ga0.31As thermophotovoltaic devices grown on graded InAsyP1 buffers by molecular beam epitaxy. <i>Solid-State Electronics</i> , 2009 , 53, 102-106	1.7	19
28	Advanced high-K gate dielectric for high-performance short-channel In0.7Ga0.3As quantum well field effect transistors on silicon substrate for low power logic applications 2009 ,		49
27	Kinetic control of self-catalyzed indium phosphide nanowires, nanocones, and nanopillars. <i>Nano Letters</i> , 2009 , 9, 2207-11	11.5	58
26	Self-catalyzed epitaxial growth of vertical indium phosphide nanowires on silicon. <i>Nano Letters</i> , 2009 , 9, 2223-8	11.5	65
25	Effect of twinning on the photoluminescence and photoelectrochemical properties of indium phosphide nanowires grown on silicon (111). <i>Nano Letters</i> , 2008 , 8, 4664-9	11.5	67
24	High-performance 40nm gate length InSb p-channel compressively strained quantum well field effect transistors for low-power (VCC=0.5V) logic applications 2008 ,		47
23	Integrating III-V on Silicon for Future Nanoelectronics 2008,		12
22	Carrier Transport in High-Mobility IIII Quantum-Well Transistors and Performance Impact for High-Speed Low-Power Logic Applications. <i>IEEE Electron Device Letters</i> , 2008 , 29, 1094-1097	4.4	51
21	Heterogeneous integration of enhancement mode in0.7ga0.3as quantum well transistor on silicon substrate using thin (les 2 fh) composite buffer architecture for high-speed and low-voltage (0.5 v) logic applications 2007 .		23

(2000-2007)

20	Ultrahigh-Speed 0.5 V Supply Voltage \$hbox{In}_{0.7} hbox{Ga}_{0.3}hbox{As}\$ Quantum-Well Transistors on Silicon Substrate. <i>IEEE Electron Device Letters</i> , 2007 , 28, 685-687	4.4	70
19	Gate length scaling study of InAlAs/InGaAs/InAsP composite channel HEMTs. <i>Solid-State Electronics</i> , 2007 , 51, 838-841	1.7	7
18	Carrier compensation and scattering mechanisms in Si-doped InAsyP1 layers grown on InP substrates using intermediate InAsyP1 step-graded buffers. <i>Journal of Applied Physics</i> , 2006 , 100, 063	7 6 5 ⁵	13
17	Evidence of interface-induced persistent photoconductivity in InPIh0.53Ga0.47AsIhP double heterostructures grown by molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2005 , 87, 032106	3.4	1
16	Photoconductivity decay in metamorphic InAsPInGaAs double heterostructures grown on InAsyP1IJ compositionally step-graded buffers. <i>Applied Physics Letters</i> , 2005 , 86, 071908	3.4	4
15	Atomic diffusion and band lineups at In0.53Ga0.47As-on-InP heterointerfaces. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2005 , 23, 1832		10
14	Spatial resolution of ballistic electron emission microscopy measured on metal/quantum-well Schottky contacts. <i>Applied Physics Letters</i> , 2005 , 87, 182105	3.4	15
13	Direct measurement of quantum confinement effects at metal to quantum-well nanocontacts. <i>Physical Review Letters</i> , 2005 , 94, 206803	7.4	24
12	Atomic layer diffusion and electronic structure at In0.53Ga0.47As/InP interfaces. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004 , 22, 554		13
11	Comparison of mixed anion, InAsyP1 and mixed cation, InxAl1 As metamorphic buffers grown by molecular beam epitaxy on (100) InP substrates. <i>Journal of Applied Physics</i> , 2004 , 95, 3952-3960	2.5	47
10	High-quality InAsyP1 step-graded buffer by molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2003 , 82, 3212-3214	3.4	29
9	Single-junction InGaP/GaAs solar cells grown on Si substrates with SiGe buffer layers. <i>Progress in Photovoltaics: Research and Applications</i> , 2002 , 10, 417-426	6.8	100
8	Relaxed InAsP layers grown on step graded InAsP buffers by solid source MBE. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 722, 1021		4
7	Electrical transport characteristics of Au/n-GaAs Schottky diodes on n-Ge at low temperatures. <i>Solid-State Electronics</i> , 2001 , 45, 133-141	1.7	142
6	Doping dependence of the barrier height and ideality factor of Au/n-GaAs Schottky diodes at low temperatures. <i>Physica B: Condensed Matter</i> , 2001 , 307, 125-137	2.8	102
5	Interface states density distribution in Au/n-GaAs Schottky diodes on n-Ge and n-GaAs substrates. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 87, 141-147	3.1	84
4	Self-annihilation of antiphase boundaries in GaAs epilayers on Ge substrates grown by metal-organic vapor-phase epitaxy. <i>Journal of Applied Physics</i> , 2001 , 89, 5972-5979	2.5	36
3	Effects of thin oxide in metalEemiconductor and metalEhsulatorEemiconductor epi-GaAs Schottky diodes. <i>Solid-State Electronics</i> , 2000 , 44, 1089-1097	1.7	131

Anomalous current transport in Au/low-doped n-GaAs Schottky barrier diodes at low temperatures.

Applied Physics A: Materials Science and Processing, 1999, 68, 49-55

2.6 67

Photoluminescence studies on Si-doped GaAs/Ge. Journal of Applied Physics, 1998, 83, 4454-4461

2.5 23