

John F Geisz

List of Publications by Year in descending order

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196
papers

9,677
citations

53202

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h-index

40544

94
g-index

199
all docs

199
docs citations

199
times ranked

6320
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Band Anticrossing in GaInNAs Alloys. Physical Review Letters, 1999, 82, 1221-1224. | 8.0 | 1,551 |
| 2 | Six-junction III-V solar cells with 47.1% conversion efficiency under 143-suns concentration. Nature Energy, 2020, 5, 326-335. | 29.7 | 446 |
| 3 | Raising the one-sun conversion efficiency of III-V/Si solar cells to 32.8% for two junctions and 35.9% for three junctions. Nature Energy, 2017, 2, . | 29.7 | 441 |
| 4 | 40.8% efficient inverted triple-junction solar cell with two independently metamorphic junctions. Applied Physics Letters, 2008, 93, . | 3.2 | 437 |
| 5 | High-efficiency GaInP-GaAs-InGaAs triple-junction solar cells grown inverted with a metamorphic bottom junction. Applied Physics Letters, 2007, 91, . | 3.2 | 351 |
| 6 | Nitrogen-Activated Transitions, Level Repulsion, and Band Gap Reduction in GaAs _{1-x} N _x with x < 0.03. Physical Review Letters, 1999, 82, 3312-3315. | 8.0 | 311 |
| 7 | III-V semiconductors for solar photovoltaic applications. Semiconductor Science and Technology, 2002, 17, 769-777. | 2.1 | 304 |
| 8 | Enhanced external radiative efficiency for 20.8% efficient single-junction GaInP solar cells. Applied Physics Letters, 2013, 103, . | 3.2 | 262 |
| 9 | Optical enhancement of the open-circuit voltage in high quality GaAs solar cells. Journal of Applied Physics, 2013, 113, . | 2.3 | 262 |
| 10 | Large, nitrogen-induced increase of the electron effective mass in In _y Ga _{1-y} N _x As _{1-x} . Applied Physics Letters, 2000, 76, 2409-2411. | 3.2 | 238 |
| 11 | Sunlight absorption in water efficiency and design implications for photoelectrochemical devices. Energy and Environmental Science, 2014, 7, 2951-2956. | 32.2 | 181 |
| 12 | Carrier control in Sn-Pb perovskites via 2D cation engineering for all-perovskite tandem solar cells with improved efficiency and stability. Nature Energy, 2022, 7, 642-651. | 29.7 | 159 |
| 13 | Building a Six-Junction Inverted Metamorphic Concentrator Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 626-632. | 2.7 | 156 |
| 14 | Effect of nitrogen on the band structure of GaInNAs alloys. Journal of Applied Physics, 1999, 86, 2349-2351. | 2.3 | 154 |
| 15 | Realization of GaInP/Si Dual-Junction Solar Cells With 29.8% 1-Sun Efficiency. IEEE Journal of Photovoltaics, 2016, 6, 1012-1019. | 2.7 | 116 |
| 16 | Non-linear luminescent coupling in series-connected multijunction solar cells. Applied Physics Letters, 2012, 100, . | 3.2 | 112 |
| 17 | Multi-junction solar cells paving the way for super high-efficiency. Journal of Applied Physics, 2021, 129, . | 2.3 | 110 |
| 18 | Solar-to-hydrogen efficiency: shining light on photoelectrochemical device performance. Energy and Environmental Science, 2016, 9, 74-80. | 32.2 | 104 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 19 | Effect of nitrogen on the electronic band structure of group III-N-V alloys. Physical Review B, 2000, 62, 4211-4214. | 3.3 | 102 |
| 20 | Quadruple-Junction Inverted Metamorphic Concentrator Devices. IEEE Journal of Photovoltaics, 2015, 5, 432-437. | 2.7 | 101 |
| 21 | Generalized Optoelectronic Model of Series-Connected Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 1827-1839. | 2.7 | 97 |
| 22 | Discrete and continuous spectrum of nitrogen-induced bound states in heavily doped GaAs $_{1-x}$ N $_x$. Physical Review B, 2001, 63, . | 3.3 | 96 |
| 23 | BGaInAs alloys lattice matched to GaAs. Applied Physics Letters, 2000, 76, 1443-1445. | 3.2 | 95 |
| 24 | Multijunction solar cells for conversion of concentrated sunlight to electricity. Optics Express, 2010, 18, A73. | 3.4 | 95 |
| 25 | Progress Towards a 30% Efficient GaInP/Si Tandem Solar Cell. Energy Procedia, 2015, 77, 464-469. | 1.8 | 92 |
| 26 | Measuring IV Curves and Subcell Photocurrents in the Presence of Luminescent Coupling. IEEE Journal of Photovoltaics, 2013, 3, 879-887. | 2.7 | 87 |
| 27 | Triple-junction solar cells with 39.5% terrestrial and 34.2% space efficiency enabled by thick quantum well superlattices. Joule, 2022, 6, 1121-1135. | 24.7 | 84 |
| 28 | A comparison of theoretical efficiencies of multi-junction concentrator solar cells. Progress in Photovoltaics: Research and Applications, 2008, 16, 537-546. | 5.3 | 82 |
| 29 | Effects of Internal Luminescence and Internal Optics on V_{oc} and J_{sc} of III-V Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 1437-1442. | 2.7 | 79 |
| 30 | Design Flexibility of Ultrahigh Efficiency Four-Junction Inverted Metamorphic Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 578-583. | 2.7 | 79 |
| 31 | Incorporating photon recycling into the analytical drift-diffusion model of high efficiency solar cells. Journal of Applied Physics, 2014, 116, . | 2.3 | 73 |
| 32 | Analysis of Multijunction Solar Cell Current-Voltage Characteristics in the Presence of Luminescent Coupling. IEEE Journal of Photovoltaics, 2013, 3, 1429-1436. | 2.7 | 68 |
| 33 | Nitrogen-induced increase of the maximum electron concentration in group III-N-V alloys. Physical Review B, 2000, 61, R13337-R13340. | 3.3 | 65 |
| 34 | High Efficiency Inverted GaAs and GaInP/GaAs Solar Cells With Strain-Balanced GaInAs/GaAsP Quantum Wells. Advanced Energy Materials, 2021, 11, 2002874. | 22.2 | 65 |
| 35 | Measurement of built-in electrical potential in III-V solar cells by scanning Kelvin probe microscopy. Journal of Applied Physics, 2003, 93, 10035-10040. | 2.3 | 64 |
| 36 | Band structure and optical properties of In $_y$ Ga $_{1-y}$ As $_{1-x}$ N $_x$ alloys. Physical Review B, 2001, 65, . | 3.3 | 63 |

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 37 | Nitrogen-induced levels in GaAs _{1-x} N _x studied with resonant Raman scattering. Physical Review B, 2000, 61, 13687-13690. | 3.3 | 62 |
| 38 | Persistent photoconductivity in Ga _{1-x} In _x NyAs _{1-y} . Applied Physics Letters, 1999, 75, 1899-1901. | 3.2 | 59 |
| 39 | Reduction of crosshatch roughness and threading dislocation density in metamorphic GaInP buffers and GaInAs solar cells. Journal of Applied Physics, 2012, 111, . | 2.3 | 58 |
| 40 | Effect of Luminescent Coupling on the Optimal Design of Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 986-990. | 2.7 | 57 |
| 41 | Mutual passivation of electrically active and isovalent impurities. Nature Materials, 2002, 1, 185-189. | 26.6 | 55 |
| 42 | Development of High-Bandgap AlGaInP Solar Cells Grown by Organometallic Vapor-Phase Epitaxy. IEEE Journal of Photovoltaics, 2016, 6, 770-776. | 2.7 | 50 |
| 43 | High-efficiency inverted metamorphic 1.7/1.1 eV GaInAsP/GaInAs dual-junction solar cells. Applied Physics Letters, 2018, 112, . | 3.2 | 50 |
| 44 | Nitrogen-induced decrease of the electron effective mass in GaAs _{1-x} N _x thin films measured by thermomagnetic transport phenomena. Applied Physics Letters, 2003, 82, 1236-1238. | 3.2 | 48 |
| 45 | Three-terminal III-V/Si tandem solar cells enabled by a transparent conductive adhesive. Sustainable Energy and Fuels, 2020, 4, 549-558. | 4.8 | 48 |
| 46 | High performance III-V photoelectrodes for solar water splitting via synergistically tailored structure and stoichiometry. Nature Communications, 2019, 10, 3388. | 13.2 | 45 |
| 47 | Measurements and Modeling of III-V Solar Cells at High Temperatures up to 400 °C. IEEE Journal of Photovoltaics, 2016, 6, 1345-1352. | 2.7 | 42 |
| 48 | X-ray diffraction and excitation photoluminescence analysis of ordered GaInP. Physical Review B, 1998, 58, 15355-15358. | 3.3 | 40 |
| 49 | Effect of growth rate and gallium source on GaAsN. Applied Physics Letters, 2003, 82, 2634-2636. | 3.2 | 39 |
| 50 | Lattice-Mismatched 0.7-eV GaInAs Solar Cells Grown on GaAs Using GaInP Compositionally Graded Buffers. IEEE Journal of Photovoltaics, 2014, 4, 190-195. | 2.7 | 39 |
| 51 | Band-gap bowing effects in B _x Ga _{1-x} As alloys. Journal of Applied Physics, 2003, 93, 2696-2699. | 2.3 | 38 |
| 52 | Passivation of Interfaces in High-Efficiency Photovoltaic Devices. Materials Research Society Symposia Proceedings, 1999, 573, 95. | 0.1 | 35 |
| 53 | Equivalent Performance in Three-Terminal and Four-Terminal Tandem Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 1584-1589. | 2.7 | 35 |
| 54 | Design Criteria for Micro-Optical Tandem Luminescent Solar Concentrators. IEEE Journal of Photovoltaics, 2018, 8, 1560-1567. | 2.7 | 35 |

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|----|--|-----|-----------|
| 55 | Ge-related faceting and segregation during the growth of metastable $(\text{GaAs})_{1-x}(\text{Ge}_2)_x$ alloy layers by metal-organic vapor-phase epitaxy. Applied Physics Letters, 1999, 74, 1382-1384. | 3.2 | 34 |
| 56 | Optically Enhanced Photon Recycling in Mechanically Stacked Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 358-365. | 2.7 | 33 |
| 57 | Detection of ammonia, phosphine, and arsine gases by reversible modulation of cadmium selenide photoluminescence intensity. Journal of Crystal Growth, 1995, 148, 63-69. | 1.6 | 32 |
| 58 | Control of misfit dislocation glide plane distribution during strain relaxation of CuPt-ordered GaInAs and GaInP. Journal of Applied Physics, 2012, 112, 023520. | 2.3 | 32 |
| 59 | Statistical distribution of the order parameter in spontaneously ordered $\text{Ga}_{0.52}\text{In}_{0.48}\text{P}$ alloys. Physical Review B, 1998, 57, R9400-R9403. | 3.3 | 31 |
| 60 | Pushing Inverted Metamorphic Multijunction Solar Cells Toward Higher Efficiency at Realistic Operating Conditions. IEEE Journal of Photovoltaics, 2013, 3, 893-898. | 2.7 | 31 |
| 61 | Improved modeling of photoluminescent and electroluminescent coupling in multijunction solar cells. Solar Energy Materials and Solar Cells, 2015, 143, 48-51. | 6.3 | 30 |
| 62 | Nitrogen-induced enhancement of the free electron concentration in sulfur implanted $\text{Ga}_x\text{N}_{1-x}$. Applied Physics Letters, 2000, 77, 2858-2860. | 3.2 | 29 |
| 63 | Conduction-band-resonant nitrogen-induced levels in $\text{GaAs}_{1-x}\text{N}_x$ with $x < 0.03$. Physical Review B, 2001, 64, . | 3.3 | 29 |
| 64 | Γ - Λ mixed symmetry of nitrogen-induced states in $\text{GaAs}_{1-x}\text{N}_x$ probed by resonant Raman scattering. Applied Physics Letters, 2001, 79, 1297-1299. | 3.2 | 28 |
| 65 | Effects of heavy nitrogen doping in III-V semiconductors: How well does the conventional wisdom hold for the dilute nitrogen III-V-N alloys?. Physica Status Solidi (B): Basic Research, 2003, 240, 396-403. | 1.6 | 28 |
| 66 | Temperature-dependent measurements of an inverted metamorphic multijunction (IMM) solar cell. , 2011, , . | | 27 |
| 67 | Using Phase Effects to Understand Measurements of the Quantum Efficiency and Related Luminescent Coupling in a Multijunction Solar Cell. IEEE Journal of Photovoltaics, 2012, 2, 424-433. | 2.7 | 27 |
| 68 | High aspect ratio electrodeposited Ni/Au contacts for GaAs-based III-V concentrator solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 646-653. | 5.3 | 26 |
| 69 | Metamorphic III-V Solar Cells: Recent Progress and Potential. IEEE Journal of Photovoltaics, 2016, 6, 366-373. | 2.7 | 26 |
| 70 | Enhanced Current Collection in 1.7 eV GaInAsP Solar Cells Grown on GaAs by Metalorganic Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2017, 7, 927-933. | 2.7 | 26 |
| 71 | Experimental and theoretical investigation of the conduction band edge of $\text{Ga}_x\text{N}_{1-x}$. Physical Review B, 2006, 74, . | 3.3 | 25 |
| 72 | Using MOVPE growth to generate tomorrow's solar electricity. Journal of Crystal Growth, 2007, 298, 748-753. | 1.6 | 25 |

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|----|---|-----|-----------|
| 73 | Phonon modes in spontaneously ordered GaInP ₂ studied by micro-Raman scattering measurements. <i>Physical Review B</i> , 1997, 56, 1888-1892. | 3.3 | 24 |
| 74 | Distribution of nitrogen atoms in dilute GaAsN and InGaAsN alloys studied by scanning tunneling microscopy. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2001, 19, 1644. | 1.6 | 24 |
| 75 | CuPt ordering in high bandgap Ga _x In _{1-x} P alloys on relaxed GaAsP step grades. <i>Journal of Applied Physics</i> , 2009, 106, . | 2.3 | 24 |
| 76 | Metamorphic Ga _{0.76} In _{0.24} As/GaAs _{0.75} Sb _{0.25} tunnel junctions grown on GaAs substrates. <i>Journal of Applied Physics</i> , 2014, 116, . | 2.3 | 24 |
| 77 | Exciton absorption bleaching studies in ordered Ga _x In _{1-x} P. <i>Physical Review B</i> , 1997, 55, 13647-13650. | 3.3 | 23 |
| 78 | Effect of microstructure on excitonic luminescence of spontaneously ordered Ga _{0.52} In _{0.48} P alloys. <i>Journal of Applied Physics</i> , 1998, 83, 5418-5420. | 2.3 | 23 |
| 79 | Distribution of built-in electrical potential in GaInP ₂ /GaAs tandem-junction solar cells. <i>Applied Physics Letters</i> , 2003, 83, 1572-1574. | 3.2 | 23 |
| 80 | Annealing-induced-type conversion of GaInNAs. <i>Journal of Applied Physics</i> , 2004, 95, 2505-2508. | 2.3 | 23 |
| 81 | Growth of lattice-matched GaInAsP grown on vicinal GaAs(001) substrates within the miscibility gap for solar cells. <i>Journal of Crystal Growth</i> , 2017, 458, 1-7. | 1.6 | 22 |
| 82 | Six-junction concentrator solar cells. <i>AIP Conference Proceedings</i> , 2018, , . | 1.0 | 22 |
| 83 | Optical investigation of GaNAs. <i>AIP Conference Proceedings</i> , 1999, , . | 1.0 | 21 |
| 84 | Spatially resolved photoluminescence in partially ordered GaInP ₂ . <i>Applied Physics Letters</i> , 1999, 74, 706-708. | 3.2 | 21 |
| 85 | Evolution of electronic states in GaAs _{1-x} In _x probed by resonant Raman spectroscopy. <i>Physical Review B</i> , 2003, 68, . | 3.3 | 21 |
| 86 | Origin of the nitrogen-induced optical transitions in GaAs _{1-x} In _x . <i>Physical Review B</i> , 2003, 68, . | 3.3 | 20 |
| 87 | Highly Transparent Compositionally Graded Buffers for New Metamorphic Multijunction Solar Cell Designs. <i>IEEE Journal of Photovoltaics</i> , 2017, 7, 347-353. | 2.7 | 20 |
| 88 | Effects of spontaneous ordering and alloy statistical fluctuations on exciton linewidth in Ga _x In _{1-x} P alloys. <i>Physical Review B</i> , 2000, 61, 9910-9912. | 3.3 | 19 |
| 89 | Confirmation of the impurity-band model for GaP _{1-x} In _x . <i>Physical Review B</i> , 2005, 72, . | 3.3 | 19 |
| 90 | Direct measurement of electrical potentials in GaInP ₂ solar cells. <i>Applied Physics Letters</i> , 2002, 81, 2569-2571. | 3.2 | 18 |

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| 91 | Implications of Redesigned, High-Radiative-Efficiency GaInP Junctions on III-V Multijunction Concentrator Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 418-424. | 2.7 | 18 |
| 92 | Apparent bandgap shift in the internal quantum efficiency for solar cells with back reflectors. Journal of Applied Physics, 2017, 121, . | 2.3 | 18 |
| 93 | Toward Low-Cost 4-Terminal GaAs//Si Tandem Solar Cells. ACS Applied Energy Materials, 2019, 2, 2375-2380. | 5.3 | 18 |
| 94 | High-Efficiency Solar Cells Grown on Spalled Germanium for Substrate Reuse without Polishing. Advanced Energy Materials, 2022, 12, . | 22.2 | 18 |
| 95 | Film stress of sputtered W/C multilayers and strain relaxation upon annealing. Journal of Applied Physics, 1994, 75, 1530-1533. | 2.3 | 17 |
| 96 | Second harmonic generation in ordered Ga _{1-x} In _x P. Physical Review B, 1998, 57, R6787-R6790. | 3.3 | 17 |
| 97 | Device characterization for design optimization of 4 junction inverted metamorphic concentrator solar cells. AIP Conference Proceedings, 2014, , . | 1.0 | 17 |
| 98 | <i>In situ</i> measurement of CuPt alloy ordering using strain anisotropy. Journal of Applied Physics, 2014, 115, . | 2.3 | 17 |
| 99 | Evolution of electronic states in Ga _{1-x} N _x studied by resonant Raman scattering spectroscopy. Physical Review B, 2003, 67, . | 3.3 | 16 |
| 100 | Metal Pillar Interconnection Topology for Bonded Two-Terminal Multijunction III-V Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 868-872. | 2.7 | 16 |
| 101 | 100-period InGaAsP/InGaP superlattice solar cell with sub-bandgap quantum efficiency approaching 80%. Applied Physics Letters, 2017, 111, . | 3.2 | 16 |
| 102 | Spectral and time dependences of the energy transfer of bound optical excitations in GaP(N). Journal of Physics Condensed Matter, 2008, 20, 015217. | 1.9 | 15 |
| 103 | Optimization of 3-junction inverted metamorphic solar cells for high-temperature and high-concentration operation. AIP Conference Proceedings, 2012, , . | 1.0 | 15 |
| 104 | Multijunction solar cell design revisited: disruption of current matching by atmospheric absorption bands. Progress in Photovoltaics: Research and Applications, 2017, 25, 850-860. | 5.3 | 15 |
| 105 | Pathway to 50% efficient inverted metamorphic concentrator solar cells. AIP Conference Proceedings, 2017, , . | 1.0 | 15 |
| 106 | Alternative boron precursors for B GaAs epitaxy. Journal of Electronic Materials, 2001, 30, 1387-1391. | 2.2 | 14 |
| 107 | Multijunction Solar Cells With Graded Buffer Bragg Reflectors. IEEE Journal of Photovoltaics, 2018, 8, 1608-1615. | 2.7 | 14 |
| 108 | Internal Resistive Barriers Related to Zinc Diffusion During the Growth of Inverted Metamorphic Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 167-173. | 2.7 | 14 |

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| 109 | Optimization of four terminal rear heterojunction GaAs on Si interdigitated back contact tandem solar cells. Applied Physics Letters, 2021, 118, . | 3.2 | 14 |
| 110 | Outdoor performance of a tandem InGaP/Si photovoltaic luminescent solar concentrator. Solar Energy Materials and Solar Cells, 2021, 223, 110945. | 6.3 | 14 |
| 111 | Far-infrared reflection studies in orderedGaInP2. Physical Review B, 1997, 56, 13126-13131. | 3.3 | 13 |
| 112 | Far-infrared transmission studies in disordered and orderedGa0.52In0.48P. Physical Review B, 1999, 60, 1484-1487. | 3.3 | 13 |
| 113 | Monolithic, Ultra-Thin GaInP/GaAs/GaInAs Tandem Solar Cells. , 2006, , . | | 13 |
| 114 | Design flexibility of ultra-high efficiency 4-junction inverted metamorphic solar cells. , 2015, , . | | 13 |
| 115 | Two-terminal metal-interconnected multijunction III-V solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 593-599. | 5.3 | 13 |
| 116 | Homogenous Voltage-Matched Strings Using Three-Terminal Tandem Solar Cells: Fundamentals and End Losses. IEEE Journal of Photovoltaics, 2021, 11, 1078-1086. | 2.7 | 13 |
| 117 | Design of semiconductor-based back reflectors for high V_{oc}/inf> monolithic multijunction solar cells. , 2012, , . | | 12 |
| 118 | Vibrational properties of GaP and GaP1-xNx under hydrostatic pressures up to 30 GPa. Physica Status Solidi (B): Basic Research, 2007, 244, 336-341. | 1.6 | 11 |
| 119 | A direct comparison of inverted and non-inverted growths of GaInP solar cells. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , . | 0.0 | 11 |
| 120 | Development of a 2.0 eV AlGaInP solar cell grown by OMVPE. , 2015, , . | | 11 |
| 121 | Optimization of Multijunction Solar Cells Through Indoor Energy Yield Measurements. IEEE Journal of Photovoltaics, 2015, 5, 438-445. | 2.7 | 11 |
| 122 | Spectral binning for energy production calculations and multijunction solar cell design. Progress in Photovoltaics: Research and Applications, 2018, 26, 48-54. | 5.3 | 11 |
| 123 | Back reflectors based on buried Al2O3 for enhancement of photon recycling in monolithic, on-substrate III-V solar cells. Applied Physics Letters, 2014, 105, . | 3.2 | 10 |
| 124 | Development of lattice-matched 1.7 eV GaInAsP solar cells grown on GaAs by MOVPE. , 2016, , . | | 10 |
| 125 | Reverse Heterojunction (Al)GaInP Solar Cells for Improved Efficiency at Concentration. IEEE Journal of Photovoltaics, 2020, 10, 487-494. | 2.7 | 10 |
| 126 | Resonant excitation study of ultrasharp emission lines in orderedCaxIn1-xP. Physical Review B, 2002, 65, . | 3.3 | 9 |

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| 127 | Trap-dominated minority-carrier recombination in GaInNAs ϵ Spn junctions. Applied Physics Letters, 2003, 83, 698-700. | 3.2 | 9 |
| 128 | Printed assemblies of microscale triple ϵ junction inverted metamorphic GaInP/GaAs/InGaAs solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 520-527. | 5.3 | 9 |
| 129 | Graded buffer Bragg reflectors with high reflectivity and transparency for metamorphic optoelectronics. Journal of Applied Physics, 2021, 129, . | 2.3 | 9 |
| 130 | Characterization of multiterminal tandem photovoltaic devices and their subcell coupling. Cell Reports Physical Science, 2021, 2, 100677. | 5.8 | 9 |
| 131 | Photoreflectance Study of the Long ϵ Term Stability of Various Surface Chemical Treatments on (001) n ϵ GaAs. Journal of the Electrochemical Society, 1997, 144, 732-736. | 2.9 | 8 |
| 132 | Pushing inverted metamorphic multijunction solar cells toward higher efficiency at realistic operating conditions. , 2012, , . | | 8 |
| 133 | Development of highly-efficient GaInP/Si Tandem Solar Cells. , 2015, , . | | 8 |
| 134 | Changing photoluminescence intensity from GaAs/Al _{0.3} Ga _{0.7} As heterostructures upon chemisorption of SO ₂ . Journal of Applied Physics, 1995, 77, 1233-1240. | 2.3 | 7 |
| 135 | Low-temperature cleaved-edge polarized-photoluminescence studies of spontaneously ordered GaInP ₂ alloys. Journal of Applied Physics, 1998, 83, 1773-1775. | 2.3 | 7 |
| 136 | Electroreflectance measurements of electric fields in ordered GaInP ₂ . Journal of Applied Physics, 1998, 84, 4502-4508. | 2.3 | 7 |
| 137 | Guided Optimization of Phase-Unstable III ϵ V Compositionally Graded Buffers by Cathodoluminescence Spectrum Imaging. IEEE Journal of Photovoltaics, 2020, 10, 109-116. | 2.7 | 7 |
| 138 | Resonant Raman scattering in spontaneously ordered GaInP ₂ . Physical Review B, 2000, 62, 1536-1539. | 3.3 | 6 |
| 139 | Tailoring the electronic properties of GaIn _{1-x} P beyond simply varying alloy composition. Applied Physics Letters, 2009, 94, 091113. | 3.2 | 6 |
| 140 | Component integration strategies in metamorphic 4-junction III-V concentrator solar cells. AIP Conference Proceedings, 2014, , . | 1.0 | 6 |
| 141 | Boosting the efficiency of III-V/Si tandem solar cells. , 2016, , . | | 6 |
| 142 | Micro-optical Tandem Luminescent Solar Concentrator. , 2017, , . | | 6 |
| 143 | Electronic and Optical Properties of Orientational Superlattices in GaInP Alloys. Materials Research Society Symposia Proceedings, 1999, 583, 255. | 0.1 | 5 |
| 144 | Growth and Characterization of GaPNAs on Si. Materials Research Society Symposia Proceedings, 2003, 799, 36. | 0.1 | 5 |

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| 145 | Symmetry of GaAs $_{1-x}$ N $_x$ conduction-band minimum probed by resonant Raman scattering. Physical Review B, 2003, 67, . | 3.3 | 5 |
| 146 | Resonant Raman scattering spectroscopy of GaP $_{1-x}$ N $_x$ and GaAs $_{1-x}$ N $_x$ in the ultraviolet range. Physical Review B, 2005, 71, . | 3.3 | 5 |
| 147 | Experimental and modeling analysis of internal luminescence in III-V solar cells. AIP Conference Proceedings, 2013, , . | 1.0 | 5 |
| 148 | Radiation effects on luminescent coupling in III-V solar cells. , 2015, , . | | 5 |
| 149 | In-situ curvature monitoring and X-ray diffraction study of InGaAsP/InGaP quantum wells. Journal of Crystal Growth, 2017, 475, 171-177. | 1.6 | 5 |
| 150 | Improvement of front-junction GaInP by point-defect injection and annealing. , 2021, , . | | 5 |
| 151 | A framework for comparing the energy production of photovoltaic modules using 2-, 3-, and 4-terminal tandem cells. Sustainable Energy and Fuels, 2023, 7, 461-470. | 4.8 | 5 |
| 152 | <i>Operando</i> Temperature Measurements of Photovoltaic Laser Power Converter Devices Under Continuous High-Intensity Illumination. IEEE Journal of Photovoltaics, 2023, 13, 808-813. | 2.7 | 5 |
| 153 | Infrared Reflective and Transparent Inverted Metamorphic Triple Junction Solar Cells. AIP Conference Proceedings, 2010, , . | 1.0 | 4 |
| 154 | Cell-level thermal management issues in concentrator III–V multijunction solar cells. , 2010, , . | | 4 |
| 155 | Measuring IV curves and subcell photocurrents in the presence of luminescent coupling. , 2012, , . | | 4 |
| 156 | Effects of in situ annealing on GaInNAs solar cells. , 2013, , . | | 4 |
| 157 | The influence of atomic ordering on strain relaxation during the growth of metamorphic solar cells. Journal of Physics: Conference Series, 2013, 471, 012006. | 0.4 | 4 |
| 158 | Analysis of ZnTe:Cu/Ti contacts for crystalline CdTe. , 2014, , . | | 4 |
| 159 | Energy yield determination of concentrator solar cells using laboratory measurements. AIP Conference Proceedings, 2015, , . | 1.0 | 4 |
| 160 | Strategies for Thinning Graded Buffer Regions in Metamorphic Solar Cells and Performance Tradeoffs. IEEE Journal of Photovoltaics, 2018, 8, 1349-1354. | 2.7 | 4 |
| 161 | Fabrication, Measurement, and Modeling of GaInP/GaAs Three-Terminal Cells and Strings. , 2021, , . | | 4 |
| 162 | Effects of ordering on the optical properties of GaInP 2. , 2004, 5530, 326. | | 3 |

| # | ARTICLE | IF | CITATIONS |
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| 163 | Hopping energy relaxation of localized excitons in GaP(N). Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 768-771. | 0.8 | 3 |
| 164 | Polarized photoluminescence from point emitters in ordered GaIn $_{1-x}$ P. Physical Review B, 2009, 80, . | 3.3 | 3 |
| 165 | 2.0–2.1 eV Ga<inf>x</inf></inf></inf></inf>In<inf>1−x</inf></inf></inf>P solar cells grown on relaxed GaAsP step grades. , 2010, , . | | 3 |
| 166 | Mechanically stacked four-junction concentrator solar cells. , 2015, , . | | 3 |
| 167 | Field spectra binning for energy production calculations and multijunction solar cell design. , 2015, , . | | 3 |
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