# Kikuo Makita

List of Publications by Year
in descending order



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|---|---|---|---|
| 110 papers | 2,368 citations | 331670<br>21 h-index | 243625<br>44 g-index |
| 110 all docs | 110 docs citations | 110 times ranked | 2159 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | GaAs//CuIn<sub>1âˆ’y</sub>Ga<sub>y</sub>Se<sub>2</sub> Three-Junction Solar Cells With 28.06% Efficiency Fabricated Using a Bonding Technique Involving Pd Nanoparticles and an Adhesive. IEEE Journal of Photovoltaics, 2022, 12, 639-645. | 2.5 | 5 |
| 2 | Integration of Si Heterojunction Solar Cells with IIIâ€“V Solar Cells by the Pd Nanoparticle Array-Mediated â€œSmart Stackâ€•Approach. ACS Applied Materials & Interfaces, 2022, 14, 11322-11329. | 8.0 | 9 |
| 3 | 28.3% Efficient IIIâ€“V Tandem Solar Cells Fabricated Using a Tripleâ€Chamber Hydride Vapor Phase Epitaxy System. Solar Rrl, 2022, 6, . | 5.8 | 10 |
| 4 | Perfect Matching Factor between a Customized Double-Junction GaAs Photovoltaic Device and an Electrolyzer for Efficient Solar Water Splitting. ACS Applied Energy Materials, 2022, 5, 8241-8253. | 5.1 | 7 |
| 5 | Impact of loading topology and current mismatch on currentâ€“voltage curves of three-terminal tandem solar cells with interdigitated back contacts. Solar Energy Materials and Solar Cells, 2021, 221, 110901. | 6.2 | 10 |
| 6 | Epitaxial Lift-Off of Single-Junction GaAs Solar Cells Grown Via Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2021, 11, 93-98. | 2.5 | 11 |
| 7 | IIIâ€V//Cu<sub><i>x</i></sub>In<sub>1âˆ’<i>y</i></sub>Ga<sub><i>y</i></sub>Se<sub>2</sub> multijunction solar cells with 27.2% efficiency fabricated using modified smart stack technology with Pd nanoparticle array and adhesive material. Progress in Photovoltaics: Research and Applications, 2021, 29, 887-898. | 8.1 | 21 |
| 8 | InGaP/GaAs dualâ€junction solar cells with AlInGaP passivation layer grown by hydride vapor phase epitaxy. Progress in Photovoltaics: Research and Applications, 2021, 29, 1285-1293. | 8.1 | 7 |
| 9 | Pd-mediated mechanical stack of IIIâ€“V solar cells fabricated via hydride vapor phase epitaxy. Solar Energy, 2021, 224, 142-148. | 6.1 | 8 |
| 10 | IIIâ€V//Si multijunction solar cells with 30% efficiency using smart stack technology with Pd nanoparticle array. Progress in Photovoltaics: Research and Applications, 2020, 28, 16-24. | 8.1 | 43 |
| 11 | Cu Nanoparticle Array-Mediated IIIâ€“V/Si Integration: Application in Series-Connected Tandem Solar Cells. ACS Applied Energy Materials, 2020, 3, 3445-3453. | 5.1 | 9 |
| 12 | Evaluation of GaAs solar cells grown under different conditions via hydride vapor phase epitaxy. Journal of Crystal Growth, 2020, 537, 125600. | 1.5 | 5 |
| 13 | High Doping Performance of Sulfur and Zinc Dopants in Tunnel Diodes Using Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2020, 10, 749-753. | 2.5 | 10 |
| 14 | Analysis of subcell open-circuit voltages of InGaP/GaAs dual-junction solar cells fabricated using hydride vapor phase epitaxy. Japanese Journal of Applied Physics, 2020, 59, SGGF02. | 1.5 | 3 |
| 15 | Multiple epitaxial lift-off of stacked GaAs solar cells for low-cost photovoltaic applications. Japanese Journal of Applied Physics, 2020, 59, 052003. | 1.5 | 6 |
| 16 | Application of polydimethylsiloxane surface texturing on III-V//Si tandem achieving more than 2 % absolute efficiency improvement. Optics Express, 2020, 28, 3895. | 3.4 | 8 |
| 17 | Spectral response measurements of each subcell in monolithic triple-junction GaAs photovoltaic devices. Applied Physics Express, 2019, 12, 102015. | 2.4 | 4 |
| 18 | Ultrafast growth of InGaP solar cells via hydride vapor phase epitaxy. Applied Physics Express, 2019, 12, 052004. | 2.4 | 15 |

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| 19 | Impact of nanometer air gaps on photon recycling in mechanically stacked multi-junction solar cells. Optics Express, 2019, 27, A1. | 3.4 | 13 |
| 20 | Improvement of Heterointerface Properties of GaAs Solar Cells Grown With InGaP Layers by Hydride Vapor-Phase Epitaxy. IEEE Journal of Photovoltaics, 2019, 9, 154-159. | 2.5 | 18 |
| 21 | Dual-junction GaAs solar cells and their application to smart stacked IIIâ€“V//Si multijunction solar cells. Applied Physics Express, 2018, 11, 052301. | 2.4 | 14 |
| 22 | Effect of Series Resistances on Conversion Efficiency of GaAs/Si Tandem Solar Cells With Areal Current-Matching Technique. IEEE Journal of Photovoltaics, 2018, 8, 654-660. | 2.5 | 10 |
| 23 | Broadband Reflectance Reduction for Wafer Bonded III-V//Si tandem Cell Using Polydimethylsiloxane -Replicated Surface Texturing. , 2018, , . | | 0 |
| 24 | Fabrication of GaAs solar cells grown with InGaP layers by hydride vapor-phase epitaxy. Japanese Journal of Applied Physics, 2018, 57, 08RD06. | 1.5 | 14 |
| 25 | Growth of InGaAsP solar cells and their application to triple-junction top cells used in smart stack multijunction solar cells. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, . | 1.2 | 10 |
| 26 | Feasibility study of two-terminal tandem solar cells integrated with smart stack, areal current matching, and low concentration. Progress in Photovoltaics: Research and Applications, 2017, 25, 255-263. | 8.1 | 18 |
| 27 | Enhancement of open circuit voltage in InGaAsP-inverted thin-film solar cells grown by solid-source molecular beam epitaxy. Journal of Crystal Growth, 2017, 477, 267-271. | 1.5 | 9 |
| 28 | Light absorption enhancement in thin-film GaAs solar cells with flattened light scattering substrates. Journal of Applied Physics, 2017, 122, . | 2.5 | 9 |
| 29 | Investigation of the properties of semiconductor wafer bonding in multijunction solar cells via metal-nanoparticle arrays. Journal of Applied Physics, 2017, 122, . | 2.5 | 19 |
| 30 | Investigation of the open-circuit voltage in mechanically stacked InGaP/GaAs//InGaAsP/InGaAs solar cells. Japanese Journal of Applied Physics, 2017, 56, 08MC01. | 1.5 | 12 |
| 31 | High-efficiency IIIâ€“V//Si tandem solar cells enabled by the Pd nanoparticle array-mediated â€œsmart stackâ€• approach. Applied Physics Express, 2017, 10, 072301. | 2.4 | 34 |
| 32 | Reduction of bonding resistance of two-terminal IIIâ€“V/Si tandem solar cells fabricated using smart-stack technology. Japanese Journal of Applied Physics, 2017, 56, 122302. | 1.5 | 4 |
| 33 | Palladium nanoparticle array-mediated semiconductor bonding that enables high-efficiency multi-junction solar cells. Japanese Journal of Applied Physics, 2016, 55, 025001. | 1.5 | 37 |
| 34 | High efficiency and radiation resistant InGaP/GaAs//CIGS stacked solar cells for space applications. , 2016, , . | | 11 |
| 35 | Tandem photovoltaicâ€“photoelectrochemical GaAs/InGaAsPâ€“WO<sub>3</sub>/BiVO<sub>4</sub> device for solar hydrogen generation. Japanese Journal of Applied Physics, 2016, 55, 04ES01. | 1.5 | 28 |
| 36 | MBE-grown InGaAsP solar cells with 1.0 eV bandgap on InP(001) substrates for application to multijunction solar cells. Japanese Journal of Applied Physics, 2015, 54, 08KE10. | 1.5 | 5 |

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| 37 | Photocatalytic generation of hydrogen by core-shell WO3/BiVO4 nanorods with ultimate water splitting efficiency. Scientific Reports, 2015, 5, 11141. | 3.3 | 464 |
| 38 | Investigation of InGaP/(In)AlGaAs/GaAs triple-junction top cells for smart stacked multijunction solar cells grown using molecular beam epitaxy. Japanese Journal of Applied Physics, 2015, 54, 08KE02. | 1.5 | 6 |
| 39 | Composition control of Cu2ZnSnSe4-based solar cells grown by coevaporation. Thin Solid Films, 2014, 551, 27-31. | 1.8 | 21 |
| 40 | Highly efficient and reliable mechanically stacked multi-junction solar cells using advanced bonding method with conductive nanoparticle alignments. , 2014, , . | | 5 |
| 41 | MBE-grown InGaP/GaAs/InGaAsP triple junction solar cells fabricated by advanced bonding technique. , 2014, , . | | 2 |
| 42 | InGaP/GaAs tandem solar cells fabricated using solid-source molecular beam epitaxy. Japanese Journal of Applied Physics, 2014, 53, 05FV06. | 1.5 | 17 |
| 43 | Over 20% Efficiency Mechanically Stacked Multi-Junction Solar Cells Fabricated by Advanced Bonding Using Conductive Nanoparticle Alignments. Materials Research Society Symposia Proceedings, 2013, 1538, 167-171. | 0.1 | 10 |
| 44 | Electrical and optical interconnection for mechanically stacked multi-junction solar cells mediated by metal nanoparticle arrays. Applied Physics Letters, 2012, 101, . | 3.3 | 68 |
| 45 | Theoretical and Experimental Study on Waveguide Avalanche Photodiodes With an Undepleted Absorption Layer for 25-Gb/s Operation. Journal of Lightwave Technology, 2011, 29, 153-161. | 4.6 | 6 |
| 46 | Dual Evanescently Coupled Waveguide Photodiodes with High Reliability for over 40-Gbps Optical Communication Systems. IEICE Transactions on Electronics, 2010, E93-C, 1655-1661. | 0.6 | 0 |
| 47 | Analytical Model for Obtaining the Ionization Rate Ratio of Mesa InAlAs Avalanche Photodiodes. Japanese Journal of Applied Physics, 2010, 49, 054302. | 1.5 | 0 |
| 48 | Multiplication Noise Characterization of InAlAs-APD With Heterojunction. IEEE Photonics Technology Letters, 2009, 21, 1852-1854. | 2.5 | 9 |
| 49 | Over 25-dB Dynamic Range 10-/1-Gbps Optical Burst-mode Receiver using High-power-tolerant APD. , 2009, , . | | 13 |
| 50 | Recent Advances in Ultra-High-Speed Waveguide Photodiodes for Optical Communication Systems. IEICE Transactions on Electronics, 2009, E92-C, 922-928. | 0.6 | 3 |
| 51 | 43-Gb/s differential receiver module for RZ-DPSK. , 2008, , . | | 1 |
| 52 | Dual Evanescently Coupled Waveguide Photodiodes for Ultra-high Bit Rate DPSK/DQPSK systems. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , . | 0.0 | 2 |
| 53 | 40â€…Gbit/s waveguide avalanche photodiode with p-type absorption layer and thin InAlAs multiplication layer. Electronics Letters, 2007, 43, 476. | 1.0 | 25 |
| 54 | Development and applications of a Si nanophotodiode with a surface plasmon antenna. , 2006, , . | | 0 |

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| 55 | 10â€...Gbit/s asymmetric waveguide APD with high sensitivity of â^'30â€...dBm. Electronics Letters, 2006, 42, 1177. | 1.0 | 15 |
| 56 | Cross-sectional scanning tunneling microscopy observation of atomic arrangement in triple period-A type ordered AlInAs alloy. Applied Surface Science, 2005, 241, 9-13. | 6.1 | 4 |
| 57 | Si Nano-Photodiode with a Surface Plasmon Antenna. Japanese Journal of Applied Physics, 2005, 44, L364-L366. | 1.5 | 300 |
| 58 | 40-Gbps high-sensitive waveguide photodetectors. , 2005, , . | | 1 |
| 59 | Robust 40-Gb/s evanescently coupled waveguide photodiode with high efficiency for use in dual wavelengths: 1310 and 1550-nm. , 2004, 5280, 554. | | 1 |
| 60 | Extremely compact (0.3â€...cm3) 40â€...Gbitâˆ•s optical receiver module with ease-of-use receptacle interface and feedthrough launcher. Electronics Letters, 2004, 40, 557. | 1.0 | 3 |
| 61 | Single photoelectron trapping, storage, and detection in a field effect transistor. Physical Review B, 2003, 67, . | 3.2 | 47 |
| 62 | Wideband and high-efficiency AlInAs/GaInAs waveguide photodetectors for 40-Gbps receivers. , 2002, , . | | 1 |
| 63 | High-speed and high-efficiency AlInAs/GaInAs waveguide photodetectors for use in 40-Gbps applications. , 2002, , . | | 0 |
| 64 | High-speed, high-power and high-efficiency photodiodes with evanescently coupled graded-index waveguide. Electronics Letters, 2000, 36, 972. | 1.0 | 23 |
| 65 | InAlAs avalanche photodiodes with very thin multiplication layer of 0.1 [micro sign]m for high-speed and low-voltage-operation optical receiver. Electronics Letters, 2000, 36, 1807. | 1.0 | 22 |
| 66 | High-speed, high-reliability planar-structure superlattice avalanche photodiodes for 10-Gb/s optical receivers. Journal of Lightwave Technology, 2000, 18, 2200-2207. | 4.6 | 29 |
| 67 | Design and Fabrication of a Waveguide Photodiode for 1.55-Âµm-Band Access Receivers. Japanese Journal of Applied Physics, 1999, 38, 1211-1214. | 1.5 | 8 |
| 68 | High-frequency response limitation of high-performance InAlGaAs/InAlAs superlattice avalanche photodiodes. Electronics Letters, 1999, 35, 2228. | 1.0 | 6 |
| 69 | Superlattice avalanche photodiodes for optical communications. Optical and Quantum Electronics, 1998, 30, 219-238. | 3.3 | 4 |
| 70 | A planar slab-waveguide photodiode with a pseudowindow region in front of the waveguide. IEEE Photonics Technology Letters, 1998, 10, 255-257. | 2.5 | 8 |
| 71 | Microlens-integrated large-area InAlGaAs-InAlAs superlattice APD's for eye-safety 1.5-Î¼m wavelength optical measurement use. IEEE Photonics Technology Letters, 1998, 10, 576-578. | 2.5 | 9 |
| 72 | Dry etching and consequent burring regrowth of nanosize quantum wells stripes using an in situ ultrahigh vacuum multichamber system. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 1. | 1.6 | 14 |

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| 73 | Design and performance of InAlGaAs/InAlAs superlattice avalanche photodiodes. Journal of Lightwave Technology, 1997, 15, 1012-1019. | 4.6 | 19 |
| 74 | High-reliability and low-dark-current 10-Gb/s planar superlattice avalanche photodiodes. IEEE Photonics Technology Letters, 1997, 9, 1619-1621. | 2.5 | 21 |
| 75 | Large bandgap energy control of multiple quantum wells selectively grown by low-pressure MOVPE. Journal of Crystal Growth, 1997, 170, 669-673. | 1.5 | 17 |
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| 77 | A transceiver PIC for bidirectional optical communication fabricated by bandgap energy controlled selective MOVPE. IEEE Photonics Technology Letters, 1996, 8, 361-363. | 2.5 | 22 |
| 78 | Gain-bandwidth product analysis of InAlGaAs-InAlAs superlattice avalanche photodiodes. IEEE Photonics Technology Letters, 1996, 8, 269-271. | 2.5 | 29 |
| 79 | Reliability of mesa-structure InAlGaAs-InAlAs superlattice avalanche photodiodes. IEEE Photonics Technology Letters, 1996, 8, 824-826. | 2.5 | 35 |
| 80 | A new planar-structure InAlGaAs-InAlAs superlattice avalanche photodiode with a Ti-implanted guard-ring. IEEE Photonics Technology Letters, 1996, 8, 827-829. | 2.5 | 13 |
| 81 | GaAs pin-photodiodes with an AlGaInP window layer for use in 650-nm wavelength GI-POF data links. IEEE Photonics Technology Letters, 1996, 8, 833-835. | 2.5 | 2 |
| 82 | A high-sensitivity APD receiver for 10-Gb/s system applications. IEEE Photonics Technology Letters, 1996, 8, 1229-1231. | 2.5 | 21 |
| 83 | 10-gigabit-per-second high-sensitivity and wide-dynamic-range APD-HEMT optical receiver. IEEE Photonics Technology Letters, 1996, 8, 1232-1234. | 2.5 | 24 |
| 84 | InAlGaAs selective MOVPE growth with bandgap energy shift. Journal of Electronic Materials, 1996, 25, 375-378. | 2.2 | 3 |
| 85 | Selective growth of InAlAs by low pressure metalorganic vapor phase epitaxy. Journal of Crystal Growth, 1996, 162, 25-30. | 1.5 | 18 |
| 86 | Dark Current and Breakdown Analysis in In(Al)GaAs/InAlAs Superlattice Avalanche Photodiodes. Japanese Journal of Applied Physics, 1996, 35, 3440-3444. | 1.5 | 22 |
| 87 | Effects of substrate misorientation on triple-period ordering in AlInAs. Journal of Crystal Growth, 1995, 150, 533-538. | 1.5 | 12 |
| 88 | Gas source molecular beam epitaxy grown InGaAsP/InGaAlAs multi-quantum well structures with wide range continuum band-offset control. Journal of Crystal Growth, 1995, 150, 579-584. | 1.5 | 5 |
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| 90 | Effects of substrate misorientation on triple-period ordering in AlInAs. Journal of Crystal Growth, 1995, 150, 533-538. | 1.5 | 1 |

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| 91 | Gas source molecular beam epitaxy grown InGaAsP/InGaAlAs multi-quantum well structures with wide range continuum band-offset control. Journal of Crystal Growth, 1995, 150, 579-584. | 1.5 | 0 |
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| 93 | InAlGaAs Staircase Avalanche Photodiodes. Japanese Journal of Applied Physics, 1994, 33, L32-L34. | 1.5 | 8 |
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| 95 | InAlGaAs impact ionization rates in bulk, superlattice, and sawtooth band structures. Applied Physics Letters, 1994, 65, 3248-3250. | 3.3 | 20 |
| 96 | High-speed and low-dark-current flip-chip InAlAs/InAlGaAs quaternary well superlattice APDs with 120 GHz gain-bandwidth product. IEEE Photonics Technology Letters, 1993, 5, 675-677. | 2.5 | 48 |
| 97 | High-sensitivity 10 Gbit/s optical receiver with superlattice APD. Electronics Letters, 1993, 29, 1874. | 1.0 | 20 |
| 98 | Impact ionization rates in. IEEE Electron Device Letters, 1990, 11, 437-438. | 3.9 | 45 |
| 99 | Crystallinity and interdiffusion in InP/InGaAs quantum wells grown by Hydride VPE. Superlattices and Microstructures, 1988, 4, 101-105. | 3.1 | 3 |
| 100 | Planar-structure InP/InGaAsP/InGaAs avalanche photodiodes with preferential lateral extended guard ring for 1.0-1.6 mu m wavelength optical communication use. Journal of Lightwave Technology, 1988, 6, 1643-1655. | 4.6 | 36 |
| 101 | Ga1â˘'yInyAs/InAsxP1â˘'x (y > 0.53, x > 0) pin photodiodes for long wavelength regions (Î» > 2Î¼m) grown by hydride vapour phase epitaxy. Electronics Letters, 1988, 24, 379. | 1.0 | 21 |
| 102 | Planar InP/InGaAs avalanche photodiodes with preferential lateral extended guard ring. IEEE Electron Device Letters, 1986, 7, 257-258. | 3.9 | 17 |
| 103 | Temperature dependence of impact ionization coefficients in InP. Journal of Applied Physics, 1986, 59, 476-481. | 2.5 | 55 |
| 104 | Photoluminescence study of InGaAs grown on InP by vapor phase epitaxyâ€"Effects of O2injection and substrate orientation. Applied Physics Letters, 1985, 46, 1069-1071. | 3.3 | 11 |
| 105 | High-speed planar-structure Inp/InGaAsP/InGaAs avalanche photodiode grown by VPE. Electronics Letters, 1984, 20, 653. | 1.0 | 28 |
| 106 | Monolithically integrated In0.53Ga0.47As-PIN/InP-MISFET photoreceiver. Electronics Letters, 1984, 20, 314. | 1.0 | 32 |
| 107 | Oxygen addition purification effect in InGaAs growth by hydride VPE. Journal of Crystal Growth, 1984, 69, 613-615. | 1.5 | 12 |
| 108 | High-temperature aging tests on planar structure InGaAs/InP PIN photodiodes with Ti/Pt and Ti/Au contact. Electronics Letters, 1984, 20, 654. | 1.0 | 18 |

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| 109 | InAlGaAs selective MOVPE growth with bandgap energy shift. , 0, , . | | 1 |
| 110 | Design and fabrication of a waveguide photodiode for 1.55-Î¼m band access receivers. , 0, , . | | 0 |