

Mutsumi Sugiyama

List of Publications by Year in descending order

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docs citations

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times ranked

1292
citing authors

#	ARTICLE	IF	CITATIONS
1	Localized exciton dynamics in strained cubic In _{0.1} Ga _{0.9} N/GaN multiple quantum wells. Applied Physics Letters, 2001, 79, 4319-4321.	3.3	81
2	Band offset of SnS solar cell structure measured by X-ray photoelectron spectroscopy. Thin Solid Films, 2011, 519, 7429-7431.	1.8	60
3	Experimental determination of band offsets of NiO-based thin film heterojunctions. Journal of Applied Physics, 2014, 116, .	2.5	59
4	Alkali-induced grain boundary reconstruction on Cu(In,Ga)Se ₂ thin film solar cells using cesium fluoride post deposition treatment. Nano Energy, 2020, 68, 104299.	16.0	56
5	Evidence of localization effects in InGaN single-quantum-well ultraviolet light-emitting diodes. Applied Physics Letters, 2000, 76, 1671-1673.	3.3	52
6	Application of impedance spectroscopy to investigate the electrical properties around the pn interface of Cu(In,Ga)Se ₂ solar cells. Thin Solid Films, 2013, 535, 287-290.	1.8	46
7	Impact of heat/light soaking on potassium fluoride treated CIGS solar cells with CdS buffer layer. Progress in Photovoltaics: Research and Applications, 2018, 26, 171-178.	8.1	46
8	Use of diethylselenide as a less-hazardous source for preparation of CuInSe ₂ photo-absorbers by selenization of metal precursors. Journal of Crystal Growth, 2002, 243, 404-409.	1.5	42
9	Investigation of Sputtering Damage around pn Interfaces of Cu(In,Ga)Se ₂ Solar Cells by Impedance Spectroscopy. Electrochimica Acta, 2014, 131, 236-239.	5.2	41
10	Investigation of the sulfurization process of Cu ₂ Sn ₃ thin films and estimation of band offsets of Cu ₂ Sn ₃ -related solar cell structure. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 757-760.	0.8	37
11	Modelling of an equivalent circuit for Cu ₂ ZnSn ₄ - and Cu ₂ ZnSn ₄ -based thin film solar cells. RSC Advances, 2017, 7, 25347-25352.	3.6	34
12	Effect of heat/bias soaking on cesium fluoride-treated CIGS thin film solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 22-29.	8.1	31
13	Growth of single-phase CuInGaSe ₂ photo-absorbing alloy films by the selenization method using diethylselenide as a less-hazardous Se source. Thin Solid Films, 2007, 515, 5867-5870.	1.8	30
14	Effects of combined additional indium deposition and potassium fluoride post-deposition treatments on Cu(In,Ga)Se ₂ thin film solar cells. Progress in Photovoltaics: Research and Applications, 2017, 25, 871-877.	8.1	29
15	Growth of single-phase Cu(In,Al)Se ₂ photoabsorbing films by selenization using diethylselenide. Thin Solid Films, 2009, 517, 2175-2177.	1.8	28
16	Preparation of SnS Films by Sulfurization of Sn Sheet. Japanese Journal of Applied Physics, 2008, 47, 4494-4495.	1.5	27
17	Experimental Determination of Valence Band Discontinuities at Cu(Al,Ga)(S,Se) ₂ /GaAs(001) Heterointerfaces Using Ultraviolet Photoemission Spectroscopy. Japanese Journal of Applied Physics, 2001, 40, L428-L430.	1.5	25
18	The use of diethylselenide as a less-hazardous source in CuInGaSe ₂ photoabsorbing alloy formation by selenization of metal precursors premixed with Se. Journal of Crystal Growth, 2006, 294, 214-217.	1.5	24

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19	Metalorganic vapor phase epitaxy of $\text{Cu}(\text{Al}_x\text{Ga}_{1-x})(\text{S}_y\text{Se}_{1-y})_2$ chalcopyrite semiconductors and their band offsets. <i>Journal of Physics and Chemistry of Solids</i> , 2003, 64, 1481-1489.	4.0	23
20	Sulfurization Growth of SnS Films and Fabrication of CdS/SnS Heterojunction for Solar Cells. <i>Japanese Journal of Applied Physics</i> , 2008, 47, 8723.	1.5	22
21	Investigation of LaVO_3 based compounds as a photovoltaic absorber. <i>Solar Energy</i> , 2018, 162, 1-7.	6.1	22
22	Advantages of using amorphous indium zinc oxide films for window layer in $\text{Cu}(\text{In,Ga})\text{Se}_2$ solar cells. <i>Thin Solid Films</i> , 2012, 520, 2119-2122.	1.8	21
23	Fabrication of visible-light transparent solar cells composed of $\text{NiO}/\text{Ni}_x\text{Zn}_{1-x}\text{O}/\text{ZnO}$ heterostructures. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2015, 12, 785-788.	0.8	21
24	Band gap bowing and exciton localization in strained cubic $\text{In}_x\text{Ga}_{1-x}\text{N}$ films grown on $3\text{C-SiC}(001)$ by rf molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2001, 79, 3600-3602.	3.3	20
25	Preparation of SnS films by low temperature sulfurization. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 1221-1224.	0.8	20
26	Studies on the Energy Band Discontinuities in SnS/ZnMgO Thin Film Heterojunction. <i>Energy Procedia</i> , 2011, 10, 172-176.	1.8	20
27	Ultraviolet light-absorbing and emitting diodes consisting of a p-type transparent-semiconducting NiO film deposited on an n-type GaN homoepitaxial layer. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	20
28	Impact of heat-light soaking and heat-bias soaking on NaF-treated CIGS thin film solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2019, 27, 623-629.	8.1	18
29	Fabrication of an-type ZnO/p-type Cu-Al-O heterojunction diode by sputtering deposition methods. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 1105-1108.	0.8	16
30	Formation of Zn-doped CuInSe_2 films by thermal annealing using dimethylzinc. <i>Journal of Crystal Growth</i> , 2008, 310, 794-797.	1.5	15
31	Photoluminescence properties of ZnSnP_2 single crystals. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 1116-1119.	0.8	13
32	Electrical properties of ZnO:H films fabricated by RF sputtering deposition and fabrication of p-NiO/n-ZnO heterojunction devices. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 071101.	1.5	13
33	Effect of Co-doping on the properties of $\text{Zn}_{1-x}\text{Co}_x\text{O}$ films deposited by spray pyrolysis. <i>Surface and Coatings Technology</i> , 2013, 231, 149-152.	4.8	12
34	Effect of Na on sulfurization growth of SnS thin films and solar cells using NaF/Sn-S precursor. <i>Thin Solid Films</i> , 2016, 615, 25-28.	1.8	12
35	Influence of electron and proton irradiation on the soaking and degradation of $\text{Cu}_2\text{ZnSnS}_4$ solar cells. <i>Thin Solid Films</i> , 2017, 642, 311-315.	1.8	12
36	Emission properties of intrinsic and extrinsic defects in Cu_2SnS_3 thin films and solar cells. <i>Japanese Journal of Applied Physics</i> , 2021, 60, 015504.	1.5	12

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37	Effect of alternating Cu poor/Cu rich/Cu poor/Cu rich/ layers of metal naphthenates in the growth process on the properties of CuInSe ₂ thin films prepared by the spin coating technique. Thin Solid Films, 2008, 516, 7335-7339.	1.8	11
38	Quantification of sputtering damage during NiO film deposition on a Si/SiO ₂ substrate using electrochemical impedance spectroscopy. Thin Solid Films, 2015, 592, 150-154.	1.8	11
39	Temperature-dependent current-voltage and admittance spectroscopy analysis on cesium-treated Cu(In _{1-x} Ga _x)Se ₂ solar cell before and after heat-light soaking and subsequent heat-soaking treatments. Progress in Photovoltaics: Research and Applications, 2020, 28, 1158-1166.	8.1	10
40	Helicon-wave-excited plasma sputtering deposition of Ga-doped ZnO transparent conducting films. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2882-2886.	1.8	9
41	Fermi-level pinning at the metal/p-type CuGaS ₂ interfaces. Journal of Applied Physics, 2002, 92, 7317-7319.	2.5	8
42	Photoluminescence Property of ZnSnP ₂ by Solution Growth and Normal Freezing Methods. Japanese Journal of Applied Physics, 2008, 47, 5342.	1.5	8
43	Optical and electrical properties of electron-irradiated Cu(In,Ga)Se ₂ solar cells. Thin Solid Films, 2011, 519, 7321-7323.	1.8	8
44	Preparation of high Ga-content CuInGaSe ₂ films by selenization of metal precursors using diethylselenide as a less-hazardous source. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 2539-2542.	0.8	7
45	Photoluminescence studies in CuInS ₂ thin films grown by sulfurization using ditertiarybutylsulfide. Journal of Applied Physics, 2012, 112, 123521.	2.5	7
46	PL properties and defects of SnS layers based on n-type buffer layers/p-type SnS structures. Japanese Journal of Applied Physics, 2019, 58, 051004.	1.5	7
47	Characterization on proton irradiation-damaged interfaces of CIGS-related multilayered compound semiconductors for solar cells by electrochemical impedance spectroscopy. Japanese Journal of Applied Physics, 2020, 59, 058003.	1.5	7
48	Electron irradiation resistance of NiO/ZnO visible-light-transparent solar cells. Japanese Journal of Applied Physics, 2020, 59, 101004.	1.5	7
49	Reduced Defect Densities in Cubic GaN Epilayers with AlGaIn/GaN Superlattice Underlayers Grown on (001) GaAs Substrates by Metalorganic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2004, 43, 958-965.	1.5	6
50	Reduction of point defect density in cubic GaN epilayers on (001) GaAs substrates using AlGaIn/GaN superlattice underlayers. Journal of Crystal Growth, 2004, 272, 481-488.	1.5	6
51	Influence of carrier mobility on sensitivity of room-temperature-operation CO ₂ sensor based on SnO ₂ thin film. Japanese Journal of Applied Physics, 2018, 57, 115503.	1.5	6
52	Non-polar GaN thin films deposition on glass substrate at low temperatures by conventional RF sputtering. Thin Solid Films, 2019, 675, 1-4.	1.8	6
53	Effect of combined treatment of cesium fluoride as precursor and post-treatment on Cu(In,Ga)Se ₂ thin film solar cell. Applied Physics Letters, 2021, 118, .	3.3	6
54	Effects of Proton Irradiation on Optical and Electrical Properties of Cu(In,Ga)Se ₂ Solar Cells. Japanese Journal of Applied Physics, 2012, 51, 111802.	1.5	6

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55	Optical Properties of an InGaN Active Layer in Ultraviolet Light Emitting Diode. Japanese Journal of Applied Physics, 1999, 38, L975-L977.	1.5	5
56	Generation of Cubic Phase in Molecular-Beam-Epitaxy-Grown Hexagonal InGaN Epilayers on InN. Japanese Journal of Applied Physics, 2006, 45, 57-60.	1.5	5
57	Effect of Deposition Conditions on Photoluminescence of CuInSe ₂ Thin Films Prepared by Spin Coating Technique. Japanese Journal of Applied Physics, 2008, 47, 8284-8286.	1.5	5
58	Control of Eu Oxidation State in Y ₂ O ₃ :xSx:Eu Thin-Film Phosphors Prepared by Atomic Layer Deposition: A Structural and Photoluminescence Study. Materials, 2020, 13, 93.	2.9	5
59	Fabrication of solar cells with CO ₂ gas sensing capabilities based on a NiO/ZnO p-n junction for developing self-powered gas sensors. Japanese Journal of Applied Physics, 2022, 61, 054002.	1.5	5
60	Interface Fermi level pinning in a Cu/p-CuGaS ₂ Schottky diode. Journal of Physics and Chemistry of Solids, 2003, 64, 1787-1790.	4.0	4
61	Critical Roles of Decomposition-Shielding Layer Deposited at Low Temperature Governing the Structural and Photoluminescence Properties of Cubic GaN Epilayers Grown on (001) GaAs by Metalorganic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2004, 43, 106-110.	1.5	4
62	Preparation of Cu(In,Al)Se ₂ thin films by selenization using diethylselenide. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1016-1018.	0.8	4
63	Preparation of CuInS ₂ thin films by sulfurization using ditertiarybutylsulfide. Thin Solid Films, 2014, 558, 400-404.	1.8	4
64	RF magnetron sputtering deposition of amorphous Zn-Sn-O thin films as a buffer layer for CIS solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 688-691.	0.8	4
65	Growth of amorphous Zn-Sn-O thin films by RF sputtering for buffer layers of CuInSe ₂ and SnS solar cells. Thin Solid Films, 2015, 589, 408-411.	1.8	4
66	Sulfurization of Cu ₂ (Sn,Ge)S ₃ thin films deposited by co-evaporation. Japanese Journal of Applied Physics, 2020, 59, SCCD01.	1.5	4
67	Effects of Ag on the carrier lifetime and efficiency of (Cu _{1-x} Ag _x) ₂ Tl ₂ ETQq1 1 0.784314 _{rgBT} /Overlock 10	1.5	4
68	Impact of Na and/or Sb on the CTS thin films and solar cell performance. Japanese Journal of Applied Physics, 2021, 60, 105506.	1.5	4
69	Effect of the valence band maximum control of Cu(In,Ga)Se ₂ photoelectrode surface on water splitting. Japanese Journal of Applied Physics, 2022, 61, 051003.	1.5	4
70	Helicon-wave-excited plasma sputtering deposition of CuAlO ₂ thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 3101-3103.	0.8	3
71	Fabrication of Zn-doped Cu(In,Ga)Se ₂ thin film solar cells prepared by Zn diffusion from the gas phase using dimethylzinc. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1213-1216.	0.8	3
72	Proton irradiation effects on NiO/ZnO visible-light-transparent solar cells for space applications. Japanese Journal of Applied Physics, 2021, 60, 048001.	1.5	3

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73	Absorption Wavelength Extension for Dye-Sensitized Solar Cells by Varying the Substituents of Chiral Salen Cu(II) Complexes. Journal of Applied Solution Chemistry and Modeling, 2016, 5, 48-56.	0.4	3
74	Photoluminescence Study of Deep Levels in CuInS ₂ Thin Films Grown by Sulfurization Using Ditertiarybutylsulfide. Japanese Journal of Applied Physics, 2012, 51, 122403.	1.5	3
75	Reactive RF magnetron sputtering epitaxy of NiO thin films on (0001) sapphire and (100) MgO substrates. Japanese Journal of Applied Physics, 2022, 61, 025505.	1.5	3
76	Growth of ZnInGaS ₄ by normal freezing method. Journal of Physics and Chemistry of Solids, 2005, 66, 2127-2129.	4.0	2
77	Ga-doped ZnO transparent conducting films prepared by helicon-wave-excited plasma sputtering. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1109-1111.	0.8	2
78	Investigation of VO ₂ directly deposited on a glass substrate using RF sputtering for a smart window. Japanese Journal of Applied Physics, 2020, 59, 105506.	1.5	2
79	Complexing Agent-Dependent Properties of Chemically Deposited Tin Antimony Sulphide Thin Films for Use in Sustainable Energy Devices. Journal of Electronic Materials, 2022, 51, 1148-1162.	2.2	2
80	Effective Localization of Quantum Well Excitons in InGaN Quantum Well Structures with High InN Mole Fraction. Physica Status Solidi A, 2000, 180, 321-325.	1.7	1
81	Use of diethylselenide for the preparation of CuInGaSe ₂ films by selenization of metal precursors premixed with Se. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 2543-2546.	0.8	1
82	Influence of Sb inclusion on morphologies and carrier concentration properties of CTS thin films grown by sulfurization of Cu-Sn precursors. Japanese Journal of Applied Physics, 0, , .	1.5	1
83	Effect of cesium fluoride treatment in bifacial Cu(In _{1-x} Ga _x)Se ₂ solar cell. Thin Solid Films, 2021, 736, 138913.	1.8	1
84	Effect of Se-Free Annealing on Cesium Fluoride-Treated Cu(In,Ga)Se ₂ Thin Films and Corresponding Solar Cells. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	1
85	Tin monosulfide (SnS) epitaxial films grown by RF magnetron sputtering and sulfurization on MgO(100) substrates. Japanese Journal of Applied Physics, 0, , .	1.5	1
86	Development of Stacked Image Sensor With Avalanche Multiplication in Surface-Enhanced Crystalline-Selenium-Based Photoconversion Layer. , 2022, 6, 1-4.		1
87	Avalanche Multiplication Image Sensor Bonded With Crystalline Se Photoconversion Layer Using Se-Se Bonding Process. IEEE Transactions on Electron Devices, 2022, 69, 4325-4330.	3.0	1
88	Preparation of ZnO:Ga thin films by helicon-wave-excited plasma sputtering. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 3135-3137.	0.8	0
89	Electrical degradation and recovery of NiO/ZnO visible-light-transparent flexible solar cells. Japanese Journal of Applied Physics, 2021, 60, 064001.	1.5	0
90	Crystal Growth of High Purity AgIn(S _x Se _{1-x}) ₂ Single Crystals. Japanese Journal of Applied Physics, 2000, 39, 50.	1.5	0

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91	Fabrication of solar cells with CO ₂ gas sensing capabilities based on a NiO/ZnO p-n junction for developing self-powered gas sensors. Japanese Journal of Applied Physics, 0, , .	1.5	0
92	Elucidation of electrical properties of undoped and Sb-induced Cu ₂ SnS ₃ (CTS) thin films and degradation properties on CTS thin films and solar cells by intentional proton irradiation. Japanese Journal of Applied Physics, 0, , .	1.5	0