Takashi Koida

List of Publications by Year
in descending order

91 papers	4,763 citations	147786 31 h-index	95259 68 g-index
92 all docs	92 docs citations	92 times ranked	4372 citing authors

#	Article	IF	Citations
1	MgxZn1âˆ’xO as a IIâ€“VI widegap semiconductor alloy. Applied Physics Letters, 1998, 72, 2466-2468.	3.3	1,447
2	Correlation between the photoluminescence lifetime and defect density in bulk and epitaxial ZnO. Applied Physics Letters, 2003, 82, 532-534.	3.3	232
3	Hydrogen-doped In₂O₃ as High-mobility Transparent Conductive Oxide. Japanese Journal of Applied Physics, 2007, 46, L685.	1.5	219
4	Ferromagnetism in Co-Doped TiO2 Rutile Thin Films Grown by Laser Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2001, 40, L1204-L1206.	1.5	178
5	Rapid construction of a phase diagram of doped Mott insulators with a composition-spread approach. Applied Physics Letters, 2000, 77, 3426-3428.	3.3	169
6	High-mobility hydrogen-doped In2O3In2O3 transparent conductive oxide for a-Si:H/c-Si heterojunction solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 851-854.	6.2	131
7	Hydrogen-doped In2O3 transparent conducting oxide films prepared by solid-phase crystallization method. Journal of Applied Physics, 2010, 107, .	2.5	126
8	A passivating contact for silicon solar cells formed during a single firing thermal annealing. Nature Energy, 2018, 3, 800-808.	39.5	109
9	Effect ofA-site cation ordering on the magnetoelectric properties in[(LaMnO3)m/(SrMnO3)m]nartificial superlattices. Physical Review B, 2002, 66, .	3.2	104
10	Defects in ZnO thin films grown on ScAlMgO4 substrates probed by a monoenergetic positron beam. Journal of Applied Physics, 2003, 93, 2481-2485.	2.5	103
11	Triple-junction thin-film silicon solar cell fabricated on periodically textured substrate with a stabilized efficiency of 13.6%. Applied Physics Letters, 2015, 106, .	3.3	100
12	High-efficiency amorphous silicon solar cells: Impact of deposition rate on metastability. Applied Physics Letters, 2015, 106, .	3.3	96
13	High electron mobility of indium oxide grown on yttria-stabilized zirconia. Journal of Applied Physics, 2006, 99, 123703.	2.5	87
14	Reduction of Optical Loss in Hydrogenated Amorphous Silicon/Crystalline Silicon Heterojunction Solar Cells by High-Mobility Hydrogen-Doped In₂O₃Transparent Conductive Oxide. Applied Physics Express, 0, 1, 041501.	2.4	79
15	Interplay of annealing temperature and doping in hole selective rear contacts based on silicon-rich silicon-carbide thin films. Solar Energy Materials and Solar Cells, 2017, 173, 18-24.	6.2	79
16	Layer-by-layer growth of high-optical-quality ZnO film on atomically smooth and lattice relaxed ZnO buffer layer. Applied Physics Letters, 2003, 83, 2784-2786.	3.3	70
17	High-mobility transparent conductive Zr-doped In2O3. Applied Physics Letters, 2006, 89, 082104.	3.3	68
18	Improved near-infrared transparency in sputtered In2O3-based transparent conductive oxide thin films by Zr-doping. Journal of Applied Physics, 2007, 101, 063705.	2.5	66

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19	High-efficiency microcrystalline silicon solar cells on honeycomb textured substrates grown with high-rate VHF plasma-enhanced chemical vapor deposition. Japanese Journal of Applied Physics, 2015, 54, 08KB05.	1.5	65
20	High-efficiency thin-film silicon solar cells realized by integrating stable a-Si:H absorbers into improved device design. Japanese Journal of Applied Physics, 2015, 54, 08KB10.	1.5	65
21	In₂O₃â€Based Transparent Conducting Oxide Films with High Electron Mobility Fabricated at Low Process Temperatures. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700506.	1.8	60
22	Parallel integration and characterization of nanoscaled epitaxial lattices by concurrent molecular layer epitaxy and diffractometry. Applied Physics Letters, 2001, 79, 536-538.	3.3	58
23	Improved quantum efficiency in nonpolar (112Ì„0) AlGaN/GaN quantum wells grown on GaN prepared by lateral epitaxial overgrowth. Applied Physics Letters, 2004, 84, 3768-3770.	3.3	57
24	Radiative and nonradiative excitonic transitions in nonpolar (112Ì„0) and polar (0001Ì„) and (0001) ZnO epilayers. Applied Physics Letters, 2004, 84, 1079-1081.	3.3	55
25	Temperature-gradient epitaxy under in situ growth mode diagnostics by scanning reflection high-energy electron diffraction. Applied Physics Letters, 2002, 80, 565-567.	3.3	54
26	Comparative studies of transparent conductive Ti-, Zr-, and Sn-doped In2O3 using a combinatorial approach. Journal of Applied Physics, 2007, 101, 063713.	2.5	53
27	Microcrystalline Silicon Solar Cells with 10.5% Efficiency Realized by Improved Photon Absorption via Periodic Textures and Highly Transparent Conductive Oxide. Applied Physics Express, 2013, 6, 104101.	2.4	51
28	Effects of long-term heat-light soaking on Cu(In,Ga)Se₂ solar cells with KF postdeposition treatment. Applied Physics Express, 2017, 10, 092301.	2.4	51
29	Application of hydrogen-doped In2O3 transparent conductive oxide to thin-film microcrystalline Si solar cells. Thin Solid Films, 2010, 518, 2930-2933.	1.8	42
30	Toward Annealingâ€Stable Molybdenumâ€Oxideâ€Based Holeâ€Selective Contacts For Silicon Photovoltaics. Solar Rrl, 2018, 2, 1700227.	5.8	42
31	Structural and electrical properties of hydrogen-doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si13.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mtext>In</mml:mtext></mml:mrow><mml:mrow><mml:mn>2</mm films fabricated by solid-phase crystallization. Journal of Non-Crystalline Solids, 2008, 354, 2805-2808.	3.1	41
32	Correlation between oxygen stoichiometry, structure, and opto-electrical properties in amorphous In2O3:H films. Journal of Applied Physics, 2012, 111, .	2.5	35
33	Amorphous and crystalline In₂O₃-based transparent conducting films for photovoltaics. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600464.	1.8	30
34	Double Heterostructure Based on ZnO and Mg_xZn_{1-x}O. Materials Science Forum, 1998, 264-268, 1463-0.	0.3	29
35	A combinatorial approach in oxide/semiconductor interface research for future electronic devices. Applied Surface Science, 2002, 189, 284-291.	6.1	29
36	Cu(In,Ga)Se₂ Solar Cells With Amorphous Oxide Semiconducting Buffer Layers. IEEE Journal of Photovoltaics, 2015, 5, 956-961.	2.5	26

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37	Development of scanning microwave microscope with a lumped-constant resonator probe for high-throughput characterization of combinatorial dielectric materials. Applied Surface Science, 2002, 189, 222-226.	6.1	25
38	Influences of deposition temperature on characteristics of B-doped ZnO films deposited by metalâ€“organic chemical vapor deposition. Thin Solid Films, 2014, 559, 83-87.	1.8	25
39	Parallel fabrication of artificially designed superlattices by combinatorial laser MBE. Applied Physics A: Materials Science and Processing, 1999, 69, S29-S31.	2.3	22
40	Multi Junction Solar Cells Stacked with Transparent and Conductive Adhesive. Japanese Journal of Applied Physics, 2011, 50, 052301.	1.5	21
41	Direct comparison of photoluminescence lifetime and defect densities in ZnO epilayers studied by time-resolved photoluminescence and slow positron annihilation techniques. Physica Status Solidi A, 2004, 201, 2841-2845.	1.7	20
42	Carrier Compensation Induced by Thermal Annealing in Al-Doped ZnO Films. Materials, 2017, 10, 141.	2.9	20
43	Nanocrystallineâ€silicon hole contact layers enabling efficiency improvement of silicon heterojunction solar cells: Impact of nanostructure evolution on solar cell performance. Progress in Photovoltaics: Research and Applications, 2021, 29, 344-356.	8.1	20
44	The sputter deposition of broadband transparent and highly conductive cerium and hydrogen coâ€doped indium oxide and its transfer to silicon heterojunction solar cells. Progress in Photovoltaics: Research and Applications, 2021, 29, 835-845.	8.1	19
45	Crystal Structure and Valence Distribution of [(LaMnO₃)_{<i>m</i>}(SrMnO₃)_{<i>m</i>}]_{<i>n</i>} Artificial Superlattices. Journal of the Physical Society of Japan, 2009, 78, 024602.	1.6	18
46	Comparison of ZnO:B and ZnO:Al layers for Cu(In,Ga)Se2 submodules. Thin Solid Films, 2016, 614, 79-83.	1.8	18
47	Improved efficiency of Cu(In,Ga)Se₂ miniâ€module via highâ€mobility In₂O₃:W,H transparent conducting oxide layer. Progress in Photovoltaics: Research and Applications, 2019, 27, 491-500.	8.1	16
48	New Route for â€œCold-Passivationâ€•of Defects in Tin-Based Oxides. Journal of Physical Chemistry C, 2018, 122, 17612-17620.	3.1	15
49	In₂O₃:H transparent conductive oxide films with high mobility and near infrared transparency for optoelectronic applications. Surface Engineering, 2012, 28, 102-107.	2.2	14
50	Cu(In,Ga)Se₂ Solar Cells with Amorphous In₂O₃-Based Front Contact Layers. ACS Applied Materials & Interfaces, 2017, 9, 29677-29686.	8.0	14
51	Structure and Numerical Simulation of Field Effect Solar Cell. Materials Research Society Symposia Proceedings, 1996, 426, 95.	0.1	12
52	Design of compact pulsed laser deposition chambers for the growth of combinatorial oxide thin film libraries. Applied Surface Science, 2002, 189, 205-209.	6.1	12
53	Si-Doping Effects in Cu(In,Ga)Se₂ Thin Films and Applications for Simplified Structure High-Efficiency Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 31119-31128.	8.0	11
54	Impact of front contact layers on performance of Cu(In,Ga)Se₂ solar cells in relaxed and metastable states. Progress in Photovoltaics: Research and Applications, 2018, 26, 789-799.	8.1	11

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55	Degradation mechanism of Cu(In,Ga)Se₂ solar cells induced by exposure to air. Japanese Journal of Applied Physics, 2016, 55, 072301.	1.5	10
56	Effect of Front TCO Layer on Properties of Substrate-Type Thin-Film Microcrystalline Silicon Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 1528-1533.	2.5	9
57	Textured surface structures formed using new techniques on transparent conducting Al-doped zinc oxide films prepared by magnetron sputtering. Thin Solid Films, 2016, 614, 56-61.	1.8	9
58	Reduced recombination in a surface-sulfurized Cu(InGa)Se₂thin-film solar cell. Japanese Journal of Applied Physics, 2018, 57, 055701.	1.5	9
59	Diffusion induced amorphization in the crystalline SrTiO3 thin films grown on Si (1 0 0) investigated by combinatorial method. Applied Surface Science, 2002, 189, 307-312.	6.1	8
60	Siâ€Doped Cu(In,Ga)Se₂ Photovoltaic Devices with Energy Conversion Efficiencies Exceeding 16.5% without a Buffer Layer. Advanced Energy Materials, 2018, 8, 1702391.	19.5	8
61	Metalâ€“insulatorâ€“metal transition in Sr2Rh1â^’xRuxO4(0â©½xâ©½1). Applied Physics Letters, 2002, 81, 4955-4957.	3.[illegible]	7
62	Heat treatment of amorphous silicon p-i-n solar cells with high-pressure H2O vapor. Journal of Non-Crystalline Solids, 2012, 358, 2285-2288.	3.1	7
63	Bilayer contacts composed of amorphous and solid-phase crystallized transparent conducting oxides for solar cells. Japanese Journal of Applied Physics, 2014, 53, 05FA08.	1.5	7
64	Impact of rough substrates on hydrogen-doped indium oxides for the application in CIGS devices. Solar Energy Materials and Solar Cells, 2020, 206, 110300.	6.2	7
65	High and broadband sensitivity front-side illuminated InGaAs photo field-effect transistors (photoFETs) with SWIR transparent conductive oxide (TCO) gate. Applied Physics Letters, 2021, 119, .	3.3	7
66	Effective mass of high-mobility <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>In</mml:mi><mml:mn>2</mml:mn></mml:n mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> -based transparent conductive oxides fabricated by solid-phase crystallization. Physical Review Materials, 2022, 6, .	2.4	7
67	Reduced Defect Densities in Cubic GaN Epilayers with AlGaN/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
68	An over 18%-efficient completely buffer-free Cu(In,Ga)Se₂ solar cell. Applied Physics Express, 2018, 11, 075502.	2.4	6
69	Oscillation of surface in-plane lattice spacing during epitaxial growth of BaTiO3 and SrTiO3 on SrTiO3(1 0 0). Applied Surface Science, 2002, 185, 226-230.	6.1	5
70	A composition-spread approach to investigate band-filling dependence on magnetic and electronic phases for Perovskite manganite. Applied Surface Science, 2002, 189, 339-343.	6.1	5
71	Sr2Rh1â^’xRuxO4 (0 â‰ x â‰ 1) composition-spread film growth on a temperature-gradient substrate by pulsed laser deposition. Applied Surface Science, 2004, 223, 264-267.	6.1	5
72	Current status of transparent conducting oxide layers with high electron mobility and their application in Cu(In,Ga)Se2 mini-modules. Thin Solid Films, 2019, 673, 26-33.	1.8	4

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73	Inorganic Semiconductors and Passivation Layers. Springer Series in Optical Sciences, 2018, , 319-426.	0.7	3
74	Thermal and Damp Heat Stability of Highâ€Mobility In 2 O 3 â€Based Transparent Conducting Films Fabricated at Low Process Temperatures. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000487.	1.8	3
75	<title>Combinatorial methodology for optimizing oxide/semiconductor interface with atomic interfacial layers</title>. , 2001, , .		2
76	Improved surface morphology in GaN homoepitaxy by NH[sub 3]-source molecular-beam epitaxy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2158.	1.6	2
77	Nano-Scale Resolved Detection of Photo-Current in a-Si:H Films. Materials Research Society Symposia Proceedings, 1996, 420, 895.	0.1	1
78	<title>Temperture-gradient and composition-spread deposition of epitaxial oxide films and high-throughput characterization</title>. , 2001, , .		1
79	Local magnetic measurements of composition-spread manganese oxide thin films with a scanning SQUID microscope. Applied Physics A: Materials Science and Processing, 2001, 72, S273-S276.	2.3	1
80	<title>Combinatorial approach to the interface structure characterizations of SrTiO<formula><inf><roman>3</roman></inf></formula> on Si(100)</title>. , 2001, 4281, 43.		1
81	Anodic Bonding of Transparent Conductive Oxide Coated Silicon Wafer to Glass Substrate for Solar Cell Applications. Applied Physics Express, 2013, 6, 012302.	2.4	1
82	Impact of front TCO layer in substrate-type thin-film microcrystalline silicon solar cells. , 2015, , .		1
83	High-Mobility Transparent Conductive Oxide Layers. Springer Series in Optical Sciences, 2018, , 565-586.	0.7	1
84	Transparent Conductive Oxides. Springer Series in Optical Sciences, 2018, , 495-541.	0.7	1
85	Nano-Scale Resolved Detection of Photo-Current in a-Si:H Films. Materials Research Society Symposia Proceedings, 1996, 426, 53.	0.1	0
86	Exploration of New Properties of Oxides by the Growth Control Using Pulsed Laser Epitaxy. Materials Research Society Symposia Proceedings, 2000, 623, 329.	0.1	0
87	Anomalous pressure dependence of light emission in cubic InGaN. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2682-2685.	0.8	0
88	Position Controlled GaN Nano-Structures Fabricated by Low Energy Focused Ion Beam System.. Materials Research Society Symposia Proceedings, 2003, 792, 621.	0.1	0
89	Reduction of bound-state and nonradiative defect densities in nonpolar (11&2macr;0) AlGaN/GaN quantum wells by the use of lateral epitaxial overgrowth technique. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2700-2703.	0.8	0
90	In2O3-based Transparent Conductive Oxide Films with High Electron Mobility. Hyomen Kagaku, 2008, 29, 18-24.	0.0	0

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91	Transparent Conductive Oxide (TCO) Gated Ingaas Mosfets for Front-Side Illuminated Short-Wave Infrared Detection. ECS Meeting Abstracts, 2022, MA2022-01, 1282-1282.	0.0	0