

# Takashi Koida

## List of Publications by Year in Descending Order

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

87  
papers

4,127  
citations

31  
h-index

64  
g-index

92  
ext. papers

4,464  
ext. citations

4.4  
avg. IF

5.06  
L-index

#	Paper	IF	Citations
87	High and broadband sensitivity front-side illuminated InGaAs photo field-effect transistors (photoFETs) with SWIR transparent conductive oxide (TCO) gate. <i>Applied Physics Letters</i> , <b>2021</b> , 119, 192101	2.4	1
86	Thermal and Damp Heat Stability of High-Mobility In <sub>2</sub> O <sub>3</sub> -Based Transparent Conducting Films Fabricated at Low Process Temperatures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2021</b> , 218, 2000487	1.6	1
85	Nanocrystalline-silicon hole contact layers enabling efficiency improvement of silicon heterojunction solar cells: Impact of nanostructure evolution on solar cell performance. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2021</b> , 29, 344-356	6.8	5
84	The sputter deposition of broadband transparent and highly conductive cerium and hydrogen co-doped indium oxide and its transfer to silicon heterojunction solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2021</b> , 29, 835	6.8	5
83	Impact of rough substrates on hydrogen-doped indium oxides for the application in CIGS devices. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 206, 110300	6.4	6
82	Current status of transparent conducting oxide layers with high electron mobility and their application in Cu(In,Ga)Se <sub>2</sub> mini-modules. <i>Thin Solid Films</i> , <b>2019</b> , 673, 26-33	2.2	3
81	Improved efficiency of Cu(In,Ga)Se <sub>2</sub> mini-module via high-mobility In <sub>2</sub> O <sub>3</sub> :W,H transparent conducting oxide layer. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2019</b> , 27, 491-500	6.8	11
80	Toward Annealing-Stable Molybdenum-Oxide-Based Hole-Selective Contacts For Silicon Photovoltaics. <i>Solar Rrl</i> , <b>2018</b> , 2, 1700227	7.1	31
79	Reduced recombination in a surface-sulfurized Cu(InGa)Se <sub>2</sub> thin-film solar cell. <i>Japanese Journal of Applied Physics</i> , <b>2018</b> , 57, 055701	1.4	8
78	In <sub>2</sub> O <sub>3</sub> -Based Transparent Conducting Oxide Films with High Electron Mobility Fabricated at Low Process Temperatures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2018</b> , 215, 1700506	1.6	36
77	Si-Doped Cu(In,Ga)Se <sub>2</sub> Photovoltaic Devices with Energy Conversion Efficiencies Exceeding 16.5% without a Buffer Layer. <i>Advanced Energy Materials</i> , <b>2018</b> , 8, 1702391	21.8	7
76	New Route for "Cold-Passivation" of Defects in Tin-Based Oxides. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 17612-17620	3.8	10
75	Impact of front contact layers on performance of Cu(In,Ga)Se <sub>2</sub> solar cells in relaxed and metastable states. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2018</b> , 26, 789-799	6.8	8
74	An over 18%-efficient completely buffer-free Cu(In,Ga)Se <sub>2</sub> solar cell. <i>Applied Physics Express</i> , <b>2018</b> , 11, 075502	2.4	3
73	High-Mobility Transparent Conductive Oxide Layers. <i>Springer Series in Optical Sciences</i> , <b>2018</b> , 565-586	0.5	1
72	Transparent Conductive Oxides. <i>Springer Series in Optical Sciences</i> , <b>2018</b> , 495-541	0.5	
71	Inorganic Semiconductors and Passivation Layers. <i>Springer Series in Optical Sciences</i> , <b>2018</b> , 319-426	0.5	1

70	A passivating contact for silicon solar cells formed during a single firing thermal annealing. <i>Nature Energy</i> , <b>2018</b> , 3, 800-808	62.3	72
69	Cu(In,Ga)Se Solar Cells with Amorphous InO-Based Front Contact Layers. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 29677-29686	9.5	13
68	Si-Doping Effects in Cu(In,Ga)Se Thin Films and Applications for Simplified Structure High-Efficiency Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 31119-31128	9.5	11
67	Effects of long-term heat-light soaking on Cu(In,Ga)Se <sub>2</sub> solar cells with KF postdeposition treatment. <i>Applied Physics Express</i> , <b>2017</b> , 10, 092301	2.4	37
66	Interplay of annealing temperature and doping in hole selective rear contacts based on silicon-rich silicon-carbide thin films. <i>Solar Energy Materials and Solar Cells</i> , <b>2017</b> , 173, 18-24	6.4	62
65	Amorphous and crystalline In <sub>2</sub> O <sub>3</sub> -based transparent conducting films for photovoltaics. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2017</b> , 214, 1600464	1.6	24
64	Carrier Compensation Induced by Thermal Annealing in Al-Doped ZnO Films. <i>Materials</i> , <b>2017</b> , 10,	3.5	18
63	Comparison of ZnO:B and ZnO:Al layers for Cu(In,Ga)Se <sub>2</sub> submodules. <i>Thin Solid Films</i> , <b>2016</b> , 614, 79-83	2.2	15
62	Degradation mechanism of Cu(In,Ga)Se <sub>2</sub> solar cells induced by exposure to air. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 072301	1.4	6
61	Textured surface structures formed using new techniques on transparent conducting Al-doped zinc oxide films prepared by magnetron sputtering. <i>Thin Solid Films</i> , <b>2016</b> , 614, 56-61	2.2	9
60	High-efficiency amorphous silicon solar cells: Impact of deposition rate on metastability. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 053901	3.4	81
59	High-efficiency thin-film silicon solar cells realized by integrating stable a-Si:H absorbers into improved device design. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 08KB10	1.4	43
58	High-efficiency microcrystalline silicon solar cells on honeycomb textured substrates grown with high-rate VHF plasma-enhanced chemical vapor deposition. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 08KB05	1.4	59
57	Triple-junction thin-film silicon solar cell fabricated on periodically textured substrate with a stabilized efficiency of 13.6%. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 213902	3.4	77
56	Cu(In,Ga)Se <sub>2</sub> Solar Cells With Amorphous Oxide Semiconducting Buffer Layers. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 956-961	3.7	22
55	Effect of Front TCO Layer on Properties of Substrate-Type Thin-Film Microcrystalline Silicon Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 1528-1533	3.7	8
54	Influences of deposition temperature on characteristics of B-doped ZnO films deposited by metalorganic chemical vapor deposition. <i>Thin Solid Films</i> , <b>2014</b> , 559, 83-87	2.2	21
53	Bilayer contacts composed of amorphous and solid-phase crystallized transparent conducting oxides for solar cells. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 05FA08	1.4	5

52	Microcrystalline Silicon Solar Cells with 10.5% Efficiency Realized by Improved Photon Absorption via Periodic Textures and Highly Transparent Conductive Oxide. <i>Applied Physics Express</i> , <b>2013</b> , 6, 104101	2.4	47
51	Anodic Bonding of Transparent Conductive Oxide Coated Silicon Wafer to Glass Substrate for Solar Cell Applications. <i>Applied Physics Express</i> , <b>2013</b> , 6, 012302	2.4	1
50	Heat treatment of amorphous silicon p-i-n solar cells with high-pressure H <sub>2</sub> O vapor. <i>Journal of Non-Crystalline Solids</i> , <b>2012</b> , 358, 2285-2288	3.9	5
49	In <sub>2</sub> O <sub>3</sub> :H transparent conductive oxide films with high mobility and near infrared transparency for optoelectronic applications. <i>Surface Engineering</i> , <b>2012</b> , 28, 102-107	2.6	10
48	Correlation between oxygen stoichiometry, structure, and opto-electrical properties in amorphous In <sub>2</sub> O <sub>3</sub> :H films. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 063721	2.5	29
47	Multi Junction Solar Cells Stacked with Transparent and Conductive Adhesive. <i>Japanese Journal of Applied Physics</i> , <b>2011</b> , 50, 052301	1.4	15
46	Hydrogen-doped In <sub>2</sub> O <sub>3</sub> transparent conducting oxide films prepared by solid-phase crystallization method. <i>Journal of Applied Physics</i> , <b>2010</b> , 107, 033514	2.5	104
45	Application of hydrogen-doped In <sub>2</sub> O <sub>3</sub> transparent conductive oxide to thin-film microcrystalline Si solar cells. <i>Thin Solid Films</i> , <b>2010</b> , 518, 2930-2933	2.2	38
44	High-mobility hydrogen-doped In <sub>2</sub> O <sub>3</sub> transparent conductive oxide for a-Si:H/c-Si heterojunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2009</b> , 93, 851-854	6.4	108
43	Crystal Structure and Valence Distribution of [(LaMnO <sub>3</sub> ) <sub>m</sub> (SrMnO <sub>3</sub> ) <sub>m</sub> ] <sub>n</sub> Artificial Superlattices. <i>Journal of the Physical Society of Japan</i> , <b>2009</b> , 78, 024602	1.5	18
42	Structural and electrical properties of hydrogen-doped . <i>Journal of Non-Crystalline Solids</i> , <b>2008</b> , 354, 2805-2808	3.7	37
41	Reduction of Optical Loss in Hydrogenated Amorphous Silicon/Crystalline Silicon Heterojunction Solar Cells by High-Mobility Hydrogen-Doped In <sub>2</sub> O <sub>3</sub> Transparent Conductive Oxide. <i>Applied Physics Express</i> , <b>2008</b> , 1, 041501	2.4	69
40	In <sub>2</sub> O <sub>3</sub> -based Transparent Conductive Oxide Films with High Electron Mobility. <i>Hyomen Kagaku</i> , <b>2008</b> , 29, 18-24		
39	Hydrogen-doped In <sub>2</sub> O <sub>3</sub> as High-mobility Transparent Conductive Oxide. <i>Japanese Journal of Applied Physics</i> , <b>2007</b> , 46, L685-L687	1.4	180
38	Comparative studies of transparent conductive Ti-, Zr-, and Sn-doped In <sub>2</sub> O <sub>3</sub> using a combinatorial approach. <i>Journal of Applied Physics</i> , <b>2007</b> , 101, 063713	2.5	48
37	Improved near-infrared transparency in sputtered In <sub>2</sub> O <sub>3</sub> -based transparent conductive oxide thin films by Zr-doping. <i>Journal of Applied Physics</i> , <b>2007</b> , 101, 063705	2.5	53
36	High-mobility transparent conductive Zr-doped In <sub>2</sub> O <sub>3</sub> . <i>Applied Physics Letters</i> , <b>2006</b> , 89, 082104	3.4	61
35	High electron mobility of indium oxide grown on yttria-stabilized zirconia. <i>Journal of Applied Physics</i> , <b>2006</b> , 99, 123703	2.5	77

34	Reduction of bound-state and nonradiative defect densities in nonpolar (11 $\bar{2}$ 0) AlGa <sub>x</sub> N/GaN quantum wells by the use of lateral epitaxial overgrowth technique. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2005</b> , 2, 2700-2703		
33	Improved surface morphology in GaN homoepitaxy by NH <sub>3</sub> -source molecular-beam epitaxy. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , <b>2004</b> , 22, 2158		2
32	Radiative and nonradiative excitonic transitions in nonpolar (11 $\bar{2}$ 0) and polar (0001) and (0001) ZnO epilayers. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 1079-1081	3-4	50
31	Improved quantum efficiency in nonpolar (11 $\bar{2}$ 0) AlGa <sub>x</sub> N/GaN quantum wells grown on GaN prepared by lateral epitaxial overgrowth. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 3768-3770	3-4	50
30	Reduced Defect Densities in Cubic GaN Epilayers with AlGa <sub>x</sub> N/GaN Superlattice Underlayers Grown on (001) GaAs Substrates by Metalorganic Vapor Phase Epitaxy. <i>Japanese Journal of Applied Physics</i> , <b>2004</b> , 43, 958-965	1-4	6
29	Direct comparison of photoluminescence lifetime and defect densities in ZnO epilayers studied by time-resolved photoluminescence and slow positron annihilation techniques. <i>Physica Status Solidi A</i> , <b>2004</b> , 201, 2841-2845		18
28	Sr <sub>2</sub> Rh <sub>1-x</sub> Ru <sub>x</sub> O <sub>4</sub> (0 $\leq$ x $\leq$ 1) composition-spread film growth on a temperature-gradient substrate by pulsed laser deposition. <i>Applied Surface Science</i> , <b>2004</b> , 223, 264-267	6-7	4
27	Correlation between the photoluminescence lifetime and defect density in bulk and epitaxial ZnO. <i>Applied Physics Letters</i> , <b>2003</b> , 82, 532-534	3-4	215
26	Anomalous pressure dependence of light emission in cubic InGa <sub>x</sub> N. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2003</b> , 2682-2685		
25	Position Controlled GaN Nano-Structures Fabricated by Low Energy Focused Ion Beam System.. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 792, 621		
24	Layer-by-layer growth of high-optical-quality ZnO film on atomically smooth and lattice relaxed ZnO buffer layer. <i>Applied Physics Letters</i> , <b>2003</b> , 83, 2784-2786	3-4	66
23	Defects in ZnO thin films grown on ScAlMgO <sub>4</sub> substrates probed by a monoenergetic positron beam. <i>Journal of Applied Physics</i> , <b>2003</b> , 93, 2481-2485	2-5	98
22	Oscillation of surface in-plane lattice spacing during epitaxial growth of BaTiO <sub>3</sub> and SrTiO <sub>3</sub> on SrTiO <sub>3</sub> (1 0 0). <i>Applied Surface Science</i> , <b>2002</b> , 185, 226-230	6-7	5
21	Design of compact pulsed laser deposition chambers for the growth of combinatorial oxide thin film libraries. <i>Applied Surface Science</i> , <b>2002</b> , 189, 205-209	6-7	9
20	Diffusion induced amorphization in the crystalline SrTiO <sub>3</sub> thin films grown on Si (1 0 0) investigated by combinatorial method. <i>Applied Surface Science</i> , <b>2002</b> , 189, 307-312	6-7	8
19	Development of scanning microwave microscope with a lumped-constant resonator probe for high-throughput characterization of combinatorial dielectric materials. <i>Applied Surface Science</i> , <b>2002</b> , 189, 222-226	6-7	23
18	A composition-spread approach to investigate band-filling dependence on magnetic and electronic phases for Perovskite manganite. <i>Applied Surface Science</i> , <b>2002</b> , 189, 339-343	6-7	5
17	A combinatorial approach in oxide/semiconductor interface research for future electronic devices. <i>Applied Surface Science</i> , <b>2002</b> , 189, 284-291	6-7	27

16	Temperature-gradient epitaxy under in situ growth mode diagnostics by scanning reflection high-energy electron diffraction. <i>Applied Physics Letters</i> , <b>2002</b> , 80, 565-567	3-4	50
15	Effect of A-site cation ordering on the magnetoelectric properties in [(LaMnO <sub>3</sub> ) <sub>m</sub> /(SrMnO <sub>3</sub> ) <sub>m</sub> ] <sub>n</sub> artificial superlattices. <i>Physical Review B</i> , <b>2002</b> , 66,	3-3	98
14	Metal-insulator-metal transition in Sr <sub>2</sub> Rh <sub>1-x</sub> Ru <sub>x</sub> O <sub>4</sub> (0 ≤ x ≤ 1). <i>Applied Physics Letters</i> , <b>2002</b> , 81, 4955-4957	3-4	7
13	Local magnetic measurements of composition-spread manganese oxide thin films with a scanning SQUID microscope. <i>Applied Physics A: Materials Science and Processing</i> , <b>2001</b> , 72, S273-S276	2-6	
12	Ferromagnetism in Co-Doped TiO <sub>2</sub> Rutile Thin Films Grown by Laser Molecular Beam Epitaxy. <i>Japanese Journal of Applied Physics</i> , <b>2001</b> , 40, L1204-L1206	1-4	166
11	Combinatorial methodology for optimizing oxide/semiconductor interface with atomic interfacial layers <b>2001</b> ,		2
10	Combinatorial approach to the interface structure characterizations of SrTiO <sub>3</sub> on Si(100) <b>2001</b> , 4281, 43		1
9	Parallel integration and characterization of nanoscaled epitaxial lattices by concurrent molecular layer epitaxy and diffractometry. <i>Applied Physics Letters</i> , <b>2001</b> , 79, 536-538	3-4	52
8	Exploration of New Properties of Oxides by the Growth Control Using Pulsed Laser Epitaxy. <i>Materials Research Society Symposia Proceedings</i> , <b>2000</b> , 623, 329		
7	Rapid construction of a phase diagram of doped Mott insulators with a composition-spread approach. <i>Applied Physics Letters</i> , <b>2000</b> , 77, 3426-3428	3-4	155
6	Parallel fabrication of artificially designed superlattices by combinatorial laser MBE. <i>Applied Physics A: Materials Science and Processing</i> , <b>1999</b> , 69, S29-S31	2-6	17
5	Mg <sub>x</sub> Zn <sub>1-x</sub> O as a II-VI widegap semiconductor alloy. <i>Applied Physics Letters</i> , <b>1998</b> , 72, 2466-2468	3-4	1333
4	Double Heterostructure Based on ZnO and Mg <sub>x</sub> Zn <sub>1-x</sub> O. <i>Materials Science Forum</i> , <b>1998</b> , 264-268, 1463-0	0-4	28
3	Nano-Scale Resolved Detection of Photo-Current in a-Si:H Films. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 420, 895		1
2	Nano-Scale Resolved Detection of Photo-Current in a-Si:H Films. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 426, 53		
1	Structure and Numerical Simulation of Field Effect Solar Cell. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 426, 95		7