

Ali Kemal Okyay

List of Publications by Year in descending order

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110
papers

3,149
citations

172386

29
h-index

168321

53
g-index

110
all docs

110
docs citations

110
times ranked

4513
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanometre-scale germanium photodetector enhanced by a near-infrared dipole antenna. Nature Photonics, 2008, 2, 226-229.	15.6	606
2	Ge-Interface Engineering With Ozone Oxidation for Low Interface-State Density. IEEE Electron Device Letters, 2008, 29, 328-330.	2.2	172
3	Hollow cathode plasma-assisted atomic layer deposition of crystalline AlN, GaN and Al _x Ga _{1-x} N thin films at low temperatures. Journal of Materials Chemistry C, 2014, 2, 2123-2136.	2.7	133
4	A Heterojunction Design of Single Layer Hole Tunneling ZnO Passivation Wrapping around TiO ₂ Nanowires for Superior Photocatalytic Performance. Scientific Reports, 2016, 6, 30587.	1.6	95
5	C-shaped nanoaperture-enhanced germanium photodetector. Optics Letters, 2006, 31, 1519.	1.7	90
6	Plasmonic backcontact grating for P3HT:PCBM organic solar cells enabling strong optical absorption increased in all polarizations. Optics Express, 2011, 19, 14200.	1.7	81
7	Random sized plasmonic nanoantennas on Silicon for low-cost broad-band near-infrared photodetection. Scientific Reports, 2014, 4, 7103.	1.6	71
8	Superhydrophobic and Omnidirectional Antireflective Surfaces from Nanostructured Ormosil Colloids. ACS Applied Materials & Interfaces, 2013, 5, 853-860.	4.0	70
9	High-efficiency metal-semiconductor-metal photodetectors on heteroepitaxially grown Ge on Si. Optics Letters, 2006, 31, 2565.	1.7	64
10	Plasmonically enhanced hot electron based photovoltaic device. Optics Express, 2013, 21, 7196.	1.7	61
11	Effect of gold nanoparticles size on light scattering for thin film amorphous-silicon solar cells. Solar Energy, 2014, 103, 263-268.	2.9	58
12	All-Silicon Ultra-Broadband Infrared Light Absorbers. Scientific Reports, 2016, 6, 38589.	1.6	57
13	Ge/SiGe Quantum-Well Waveguide Photodetectors on Silicon for the Near-Infrared. IEEE Photonics Technology Letters, 2007, 19, 1631-1633.	1.3	56
14	Experimental characterization of single-walled carbon nanotube film-Si Schottky contacts using metal-semiconductor-metal structures. Applied Physics Letters, 2008, 92, 243116.	1.5	53
15	Surface engineered angstrom thick ZnO-sheathed TiO ₂ nanowires as photoanodes for performance enhanced dye-sensitized solar cells. Journal of Materials Chemistry A, 2014, 2, 16867-16876.	5.2	51
16	Thin film MoS ₂ nanocrystal based ultraviolet photodetector. Optics Express, 2012, 20, 21815.	1.7	49
17	High-Efficiency p-i-n Photodetectors on Selective-Area-Grown Ge for Monolithic Integration. IEEE Electron Device Letters, 2009, 30, 1161-1163.	2.2	46
18	Volumetric plasmonic resonator architecture for thin-film solar cells. Applied Physics Letters, 2011, 98, 093117.	1.5	46

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19	Post-Treatment of Silicon Nanocrystals Produced by Ultra-Short Pulsed Laser Ablation in Liquid: Toward Blue Luminescent Nanocrystal Generation. <i>Journal of Physical Chemistry C</i> , 2012, 116, 3432-3436.	1.5	44
20	Thin-Film ZnO Charge-Trapping Memory Cell Grown in a Single ALD Step. <i>IEEE Electron Device Letters</i> , 2012, 33, 1714-1716.	2.2	44
21	Effect of Au nano-particles on TiO ₂ nanorod electrode in dye-sensitized solar cells. <i>Electrochimica Acta</i> , 2012, 76, 446-452.	2.6	40
22	Catalytic Properties of Vanadium Diselenide: A Comprehensive Study on Its Electrocatalytic Performance in Alkaline, Neutral, and Acidic Media. <i>ACS Omega</i> , 2017, 2, 8319-8329.	1.6	40
23	Diode behavior in ultra-thin low temperature ALD grown zinc-oxide on silicon. <i>AIP Advances</i> , 2013, 3, .	0.6	38
24	Silicon Germanium CMOS Optoelectronic Switching Device: Bringing Light to Latch. <i>IEEE Transactions on Electron Devices</i> , 2007, 54, 3252-3259.	1.6	35
25	Low power zinc-oxide based charge trapping memory with embedded silicon nanoparticles via poole-frenkel hole emission. <i>Applied Physics Letters</i> , 2014, 104, 013112.	1.5	34
26	Low-temperature Deposition of Hexagonal Boron Nitride via Sequential Injection of Triethylboron and N ₂ /H ₂ Plasma. <i>Journal of the American Ceramic Society</i> , 2014, 97, 4052-4059.	1.9	33
27	A Near-Infrared Range Photodetector Based on Indium Nitride Nanocrystals Obtained Through Laser Ablation. <i>IEEE Electron Device Letters</i> , 2014, 35, 936-938.	2.2	33
28	Silicon-Germanium multi-quantum well photodetectors in the near infrared. <i>Optics Express</i> , 2012, 20, 7608.	1.7	32
29	Emerging photoluminescence from defective vanadium diselenide nanosheets. <i>Photonics Research</i> , 2018, 6, 244.	3.4	31
30	Raman Enhancement on a Broadband Meta-Surface. <i>ACS Nano</i> , 2012, 6, 6852-6861.	7.3	29
31	Large bandwidth mode order converter by differential waveguides. <i>Optics Express</i> , 2015, 23, 3186.	1.7	29
32	Enhanced memory effect via quantum confinement in 16-nm InN nanoparticles embedded in ZnO charge trapping layer. <i>Applied Physics Letters</i> , 2014, 104, 253106.	1.5	27
33	~3-nm ZnO Nanoislands Deposition and Application in Charge Trapping Memory Grown by Single ALD Step. <i>Scientific Reports</i> , 2016, 6, 38712.	1.6	27
34	Au/TiO ₂ nanorod-based Schottky-type UV photodetectors. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012, 6, 442-444.	1.2	26
35	SiGe optoelectronic metal-oxide semiconductor field-effect transistor. <i>Optics Letters</i> , 2007, 32, 2022.	1.7	25
36	High quality single-crystal germanium-on-insulator on bulk Si substrates based on multistep lateral over-growth with hydrogen annealing. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	25

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37	Controlling luminescent silicon nanoparticle emission produced by nanosecond pulsed laser ablation: role of interface defect states and crystallinity phase. RSC Advances, 2016, 6, 112520-112526.	1.7	24
38	Fabrication and characterization of graphene/AlGaIn/GaN ultraviolet Schottky photodetector. Journal Physics D: Applied Physics, 2016, 49, 275105.	1.3	24
39	Amyloid-like peptide nanofiber templated titania nanostructures as dye sensitized solar cell anodic materials. Journal of Materials Chemistry A, 2013, 1, 10979.	5.2	23
40	Atomic layer deposited HfO ₂ based metal insulator semiconductor GaN ultraviolet photodetectors. Current Applied Physics, 2014, 14, 1703-1706.	1.1	23
41	Zinc-oxide charge trapping memory cell with ultra-thin chromium-oxide trapping layer. AIP Advances, 2013, 3, .	0.6	20
42	An all-ZnO microbolometer for infrared imaging. Infrared Physics and Technology, 2014, 67, 245-249.	1.3	20
43	Large area compatible broadband superabsorber surfaces in the VIS-NIR spectrum utilizing metal-insulator-metal stack and plasmonic nanoparticles. Optics Express, 2016, 24, 17644.	1.7	20
44	Low-Temperature As-Grown Crystalline $\text{In}_2\text{Ga}_2\text{O}_3$ Films via Plasma-Enhanced Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2021, 13, 8538-8551.	4.0	20
45	Structural and microstructural phase evolution during mechano-synthesis of nanocrystalline/amorphous CuAlMn alloy powders. Advanced Powder Technology, 2013, 24, 1048-1053.	2.0	19
46	Real-time <i>in situ</i> ellipsometric monitoring of aluminum nitride film growth via hollow-cathode plasma-assisted atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	0.9	19
47	Triangular metallic gratings for large absorption enhancement in thin film Si solar cells. Optics Express, 2012, 20, 9458.	1.7	18
48	Selective-Area High-Quality Germanium Growth for Monolithic Integrated Optoelectronics. IEEE Electron Device Letters, 2012, 33, 579-581.	2.2	18
49	Dynamic Control of Photoresponse in ZnO-Based Thin-Film Transistors in the Visible Spectrum. IEEE Photonics Journal, 2013, 5, 2200707-2200707.	1.0	18
50	Silicon nanoparticle charge trapping memory cell. Physica Status Solidi - Rapid Research Letters, 2014, 8, 629-633.	1.2	18
51	Low temperature thin film transistors with hollow cathode plasma-assisted atomic layer deposition based GaN channels. Applied Physics Letters, 2014, 104, .	1.5	18
52	Lateral overgrowth of germanium for monolithic integration of germanium-on-insulator on silicon. Journal of Crystal Growth, 2015, 416, 21-27.	0.7	18
53	Metal-semiconductor-metal UV photodetector based on Ga doped ZnO/graphene interface. Solid State Communications, 2015, 224, 37-40.	0.9	18
54	Low-temperature grown wurtzite $\text{In}_x\text{Ga}_{1-x}\text{N}$ thin films via hollow cathode plasma-assisted atomic layer deposition. Journal of Materials Chemistry C, 2015, 3, 9620-9630.	2.7	18

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55	Plasmonically enhanced metal-insulator multistacked photodetectors with separate absorption and collection junctions for near-infrared applications. <i>Scientific Reports</i> , 2017, 7, 42349.	1.6	18
56	Formation of B19 α , B2, and amorphous phases during mechano-synthesis of nanocrystalline NiTi intermetallics. <i>Powder Technology</i> , 2014, 253, 797-802.	2.1	17
57	Atomic-layer-deposited zinc oxide as tunable uncooled infrared microbolometer material. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2014, 211, 2475-2482.	0.8	17
58	Phase transformation during mechano-synthesis of nanocrystalline/amorphous Fe ϵ -32Mn ϵ -6Si alloys. <i>Materials Characterization</i> , 2013, 84, 169-174.	1.9	16
59	Ultrahigh Contrast One-Way Optical Transmission Through a Subwavelength Slit. <i>Plasmonics</i> , 2013, 8, 509-513.	1.8	16
60	Resistive Switching-based Electro-Optical Modulation. <i>Advanced Optical Materials</i> , 2014, 2, 1149-1154.	3.6	16
61	Enhanced Performance of Nanowire-Based All-TiO $_2$ Solar Cells using Subnanometer-Thick Atomic Layer Deposited ZnO Embedded Layer. <i>Electrochimica Acta</i> , 2015, 157, 23-30.	2.6	16
62	Elucidating the role of nitrogen plasma composition in the low-temperature self-limiting growth of indium nitride thin films. <i>RSC Advances</i> , 2020, 10, 27357-27368.	1.7	16
63	Plasmonic materials based on ZnO films and their potential for developing broadband middle-infrared absorbers. <i>AIP Advances</i> , 2014, 4, .	0.6	15
64	Fabrication of Nanostructured Medical-Grade Stainless Steel by Mechanical Alloying and Subsequent Liquid-Phase Sintering. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 2994-2998.	1.1	14
65	Generation of InN nanocrystals in organic solution through laser ablation of high pressure chemical vapor deposition-grown InN thin film. <i>Journal of Nanoparticle Research</i> , 2012, 14, 1.	0.8	13
66	Comparative study of thin film n-i-p a-Si:H solar cells to investigate the effect of absorber layer thickness on the plasmonic enhancement using gold nanoparticles. <i>Solar Energy</i> , 2015, 120, 257-262.	2.9	13
67	Optical characteristics of nanocrystalline Al $_x$ Ga $_{1-x}$ N thin films deposited by hollow cathode plasma-assisted atomic layer deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014, 32, .	0.9	12
68	Demonstration of flexible thin film transistors with GaN channels. <i>Applied Physics Letters</i> , 2016, 109, 233504.	1.5	12
69	Experimental and theoretical investigation of phosphorus in-situ doping of germanium epitaxial layers. <i>Current Applied Physics</i> , 2013, 13, 1060-1063.	1.1	11
70	Metal-dielectric-metal plasmonic resonators for active beam steering in the infrared. <i>Optics Letters</i> , 2013, 38, 983.	1.7	11
71	Low-temperature hollow cathode plasma-assisted atomic layer deposition of crystalline III-nitride thin films and nanostructures. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2015, 12, 394-398.	0.8	11
72	Metal-semiconductor-metal ultraviolet photodetectors based on gallium nitride grown by atomic layer deposition at low temperatures. <i>Optical Engineering</i> , 2014, 53, 107106.	0.5	10

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73	Ge/SiGe Quantum Well p-i-n Structures for Uncooled Infrared Bolometers. IEEE Electron Device Letters, 2011, 32, 1567-1569.	2.2	9
74	Plasmonic Nanoslit Array Enhanced Metal-Semiconductor-Metal Optical Detectors. IEEE Photonics Technology Letters, 2012, 24, 548-550.	1.3	9
75	Using nanogap in label-free impedance based electrical biosensors to overcome electrical double layer effect. Microsystem Technologies, 2017, 23, 889-897.	1.2	8
76	Self-assembled peptide nanofiber templated ALD growth of TiO ₂ and ZnO semiconductor nanonetworks. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 3238-3244.	0.8	7
77	Ge on Si by novel heteroepitaxy for high efficiency near infrared photodetection. , 2006, , .		6
78	Atomic Layer Deposition for Vertically Integrated ZnO Thin Film Transistors: Toward 3D High Packing Density Thin Film Electronics. Physica Status Solidi C: Current Topics in Solid State Physics, 2017, 14, 1700128.	0.8	6
79	Realization of Single Layer Microbolometer Detector Pixel Using ZnO Material. IEEE Sensors Journal, 2020, 20, 9677-9684.	2.4	5
80	Actively tunable thin films for visible light by thermo-optic modulation of ZnO. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1340-1345.	0.8	4
81	A performance-enhanced planar Schottky diode for Terahertz applications: an electromagnetic modeling approach. International Journal of Microwave and Wireless Technologies, 2017, 9, 1905-1913.	1.5	4
82	Terahertz Bandpass Frequency Selective Surfaces on Glass Substrates Using a Wet Micromachining Process. Journal of Infrared, Millimeter, and Terahertz Waves, 2017, 38, 945-957.	1.2	4
83	High performance n-MOSFETs with novel source/drain on selectively grown Ge on Si for monolithic integration. , 2009, , .		3
84	~23% increase in efficiency of 100 nm thin film a-si solar cells using combination of Si/InN and Au nanoparticles. , 2015, , .		3
85	Effect of reactor pressure on optical and electrical properties of InN films grown by high-pressure chemical vapor deposition. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 423-429.	0.8	3
86	LWIR all-atomic layer deposition ZnO bilayer microbolometer for thermal imaging. Optical Engineering, 2017, 56, 037106.	0.5	3
87	Real-time in situ process monitoring and characterization of GaN films grown on Si (100) by low-temperature hollow-cathode plasma-atomic layer deposition using trimethylgallium and N ₂ /H ₂ plasma. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	3
88	Strain Enhanced High Efficiency Germanium Photodetectors in the Near Infrared for Integration with Si. , 2006, , .		2
89	PERFORMANCE LIMITATIONS OF Si CMOS AND ALTERNATIVES FOR NANOELECTRONICS. International Journal of High Speed Electronics and Systems, 2006, 16, 175-192.	0.3	2
90	High efficiency monolithic photodetectors for integrated optoelectronics in the near infrared. , 2009, , .		2

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91	Hollow-cathode plasma-assisted atomic layer deposition: A novel route for low-temperature synthesis of crystalline III-nitride thin films and nanostructures. , 2015, , .		2
92	Silicon-Germanium multi-quantum wells for extended functionality and lower cost integration. , 2010, , .		1
93	Growth of ~ 4 -nm ZnO nano-islands using Atomic Layer Deposition. , 2016, , .		1
94	Seed Layer Assisted Hydrothermal Deposition of Low-resistivity ZnO Thin Films. MRS Advances, 2017, 2, 799-804.	0.5	1
95	Novel Si-based Optoelectronic Switching Device: Light to Latch. , 2007, , .		0
96	Novel Si-based CMOS Optoelectronic Switching Device Operating in the Near Infrared. , 2007, , .		0
97	Volumetric plasmonic resonators for very thin organic solar cells. , 2010, , .		0
98	Plasmonic gratings for enhanced near infrared sensitivity of Silicon based Schottky photodetectors. , 2011, , .		0
99	Triangular metallic gratings for high efficiency thin film solar cells. , 2011, , .		0
100	Tunable visible response of ZnO thin-film phototransistors with atomic layer deposition technique. , 2012, , .		0
101	ZnO based charge trapping memory with embedded nanoparticles. , 2012, , .		0
102	Silicon Nano-Particles with High Resistance to Harsh Ambient Conditions. Journal of Cluster Science, 2012, 23, 967-974.	1.7	0
103	Electrically controlled resistive switching assisted active ultra-broadband optical tunability in the infrared. , 2013, , .		0
104	Plasmonically enhanced ZnO thin-film-photo-transistor with dynamic responsivity control. , 2013, , .		0
105	Resistive Switching: Resistive Switching-based Electro-Optical Modulation (Advanced Optical) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	3.8	0
106	Broadband one way propagation via dielectric waveguides with unequal effective index. , 2014, , .		0
107	Atomic-layer-deposited zinc oxide as tunable uncooled infrared microbolometer material (Phys. Status) Tj ETQq1 1 0.784314 rgBT /Over	0.8	0
108	Low temperature ALD grown ZnO as emitter and TCO for a thin-film a-Si PIN solar cells. , 2015, , .		0

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109	PERFORMANCE LIMITATIONS OF SI CMOS AND ALTERNATIVES FOR NANOELECTRONICS. , 2006, , .		0
110	10.1063/1.4887520.1. , 2014, , .		0