

Rehan R Kapadia

List of Publications by Year in descending order

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74
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3,798
citations

159585

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76
all docs

76
docs citations

76
times ranked

6434
citing authors

#	ARTICLE	IF	CITATIONS
1	Multifunctional photoresponsive organic molecule for electric field sensing and modulation. Journal of Materials Chemistry C, 2022, 10, 1204-1211.	5.5	10
2	Machine Vision With InP Based Floating-Gate Photo-Field-Effective Transistors for Color-Mixed Image Recognition. IEEE Journal of Quantum Electronics, 2022, 58, 1-7.	1.9	3
3	Contact photolithography-free integration of patterned and semi-transparent indium tin oxide stimulation electrodes into polydimethylsiloxane-based heart-on-a-chip devices for streamlining physiological recordings. Lab on A Chip, 2021, 21, 674-687.	6.0	7
4	Hot electron emission from waveguide integrated lanthanum hexaboride nanoparticles. Applied Physics Letters, 2021, 118, .	3.3	7
5	Increasing the Hot-Electron Driven Hydrogen Evolution Reaction Rate on a Metal-Free Graphene Electrode. Advanced Materials Interfaces, 2021, 8, 2001706.	3.7	3
6	Photoemission Assisted by Low workfunction Nanoparticle Waveguide Integrated Device. , 2021, , .		0
7	Integrated photonic components for photoemission. , 2021, , .		0
8	A Platform for Monolithic Back End of Line III-V Integration. , 2020, , .		0
9	High mobility large area single crystal III-V thin film templates directly grown on amorphous SiO2 on silicon. Applied Physics Letters, 2020, 117, .	3.3	5
10	Broadband electroluminescence from reverse breakdown in individual suspended carbon nanotube pn-junctions. Nano Research, 2020, 13, 2857-2861.	10.4	1
11	Engineering Complex Synaptic Behaviors in a Single Device: Emulating Consolidation of Short-term Memory to Long-term Memory in Artificial Synapses via Dielectric Band Engineering. Nano Letters, 2020, 20, 7793-7801.	9.1	29
12	Low Temperature Growth of Crystalline Semiconductors on Nonepitaxial Substrates. Advanced Materials Interfaces, 2020, 7, 1902191.	3.7	3
13	Monolithic High-Mobility InAs on Oxide Grown at Low Temperature. ACS Applied Electronic Materials, 2020, 2, 1997-2002.	4.3	3
14	Performance Limits of Graphene Hot Electron Emission Photoemitters. Physical Review Applied, 2020, 13, .	3.8	13
15	Auger Suppression of Incandescence in Individual Suspended Carbon Nanotube pn-Junctions. ACS Applied Materials & Interfaces, 2020, 12, 11907-11912.	8.0	1
16	Tunable Onset of Hydrogen Evolution in Graphene with Hot Electrons. Nano Letters, 2020, 20, 1791-1799.	9.1	6
17	High Quantum Efficiency Hot Electron Electrochemistry. Nano Letters, 2019, 19, 6227-6234.	9.1	15
18	Hot-electron emission processes in waveguide-integrated graphene. Nature Photonics, 2019, 13, 843-848.	31.4	24

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19	Epitaxial growth and dielectric characterization of atomically smooth $0.5\text{Ba}(\text{Zr}_{0.2}\text{Ti}_{0.8})\text{O}_3 \approx 0.5(\text{Ba}_{0.7}\text{Ca}_{0.3})\text{TiO}_3$ thin films. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2019, 37, .	2.1	5
20	Mimicking Biological Synaptic Functionality with an Indium Phosphide Synaptic Device on Silicon for Scalable Neuromorphic Computing. <i>ACS Nano</i> , 2018, 12, 1656-1663.	14.6	96
21	Buffer insensitive optoelectronic quality of InP-on-Si with templated liquid phase growth. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2018, 36, .	1.2	5
22	Confined Liquid-Phase Growth of Crystalline Compound Semiconductors on Any Substrate. <i>ACS Nano</i> , 2018, 12, 5158-5167.	14.6	19
23	Optimal Bandgap in a 2D Ruddlesden-Popper Perovskite Chalcogenide for Single-Junction Solar Cells. <i>Chemistry of Materials</i> , 2018, 30, 4882-4886.	6.7	49
24	Engineering the field enhancement factor and work function toward ultra-low threshold field electron emitter. , 2018, , .		0
25	Integrated waveguide assisted electron emission device. , 2018, , .		0
26	Hot electron-driven photocatalytic water splitting. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 2877-2881.	2.8	37
27	Scalable Indium Phosphide Thin-Film Nanophotonics Platform for Photovoltaic and Photoelectrochemical Devices. <i>ACS Nano</i> , 2017, 11, 5113-5119.	14.6	30
28	Bandgap Control via Structural and Chemical Tuning of Transition Metal Perovskite Chalcogenides. <i>Advanced Materials</i> , 2017, 29, 1604733.	21.0	154
29	Avalanche Photoemission in Suspended Carbon Nanotubes: Light without Heat. <i>ACS Photonics</i> , 2017, 4, 2706-2710.	6.6	4
30	Prevention of surface recombination by electrochemical tuning of TiO_2 -passivated photocatalysts. <i>Applied Physics Letters</i> , 2017, 111, 141603.	3.3	2
31	Independent tuning of work function and field enhancement factor in hybrid lanthanum hexaboride-graphene-silicon field emitters. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2017, 35, 062202.	1.2	6
32	Efficient and ultrafast optical modulation of on-chip thermionic emission using resonant cavity coupled electron emitters. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2016, 34, 041228.	1.2	5
33	III-Vs at scale: a PV manufacturing cost analysis of the thin film vapor-liquid-solid growth mode. <i>Progress in Photovoltaics: Research and Applications</i> , 2016, 24, 871-878.	8.1	20
34	Direct growth of single-crystalline III-V semiconductors on amorphous substrates. <i>Nature Communications</i> , 2016, 7, 10502.	12.8	45
35	Role of TiO_2 Surface Passivation on Improving the Performance of p-InP Photocathodes. <i>Journal of Physical Chemistry C</i> , 2015, 119, 2308-2313.	3.1	127
36	Quantum Well InAs/AlSb/GaSb Vertical Tunnel FET With HSQ Mechanical Support. <i>IEEE Nanotechnology Magazine</i> , 2015, 14, 580-584.	2.0	19

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37	Photocurrent spectroscopy of exciton and free particle optical transitions in suspended carbon nanotube pn-junctions. Applied Physics Letters, 2015, 107, 053107.	3.3	13
38	Photovoltaic Material Characterization With Steady State and Transient Photoluminescence. IEEE Journal of Photovoltaics, 2015, 5, 282-287.	2.5	15
39	Electrodeposition of High-Purity Indium Thin Films and Its Application to Indium Phosphide Solar Cells. Journal of the Electrochemical Society, 2014, 161, D794-D800.	2.9	16
40	MoS ₂ P-type Transistors and Diodes Enabled by High Work Function MoO _x Contacts. Nano Letters, 2014, 14, 1337-1342.	9.1	487
41	Deterministic Nucleation of InP on Metal Foils with the Thin-Film Vapor "Liquid" Solid Growth Mode. Chemistry of Materials, 2014, 26, 1340-1344.	6.7	32
42	Two-dimensional to three-dimensional tunneling in InAs/AlSb/GaSb quantum well heterojunctions. Journal of Applied Physics, 2013, 114, .	2.5	16
43	Surface Charge Transfer Doping of III-V Nanostructures. Journal of Physical Chemistry C, 2013, 117, 17845-17849.	3.1	19
44	Ballistic InAs Nanowire Transistors. Nano Letters, 2013, 13, 555-558.	9.1	155
45	High quality interfaces of InAs-on-insulator field-effect transistors with ZrO ₂ gate dielectrics. Applied Physics Letters, 2013, 102, .	3.3	33
46	Near-ideal electrical properties of InAs/WSe ₂ van der Waals heterojunction diodes. Applied Physics Letters, 2013, 102, .	3.3	71
47	Effects of palladium coating on field-emission properties of carbon nanofibers in a hydrogen plasma. Thin Solid Films, 2013, 534, 488-491.	1.8	11
48	A direct thin-film path towards low-cost large-area III-V photovoltaics. Scientific Reports, 2013, 3, 2275.	3.3	65
49	Multifunctional, flexible electronic systems based on engineered nanostructured materials. Nanotechnology, 2012, 23, 344001.	2.6	38
50	A compact neutron generator using a field ionization source. Review of Scientific Instruments, 2012, 83, 02B312.	1.3	14
51	Morphological and spatial control of InP growth using closed-space sublimation. Journal of Applied Physics, 2012, 112, 123102.	2.5	18
52	Observation of Degenerate One-Dimensional Sub-Bands in Cylindrical InAs Nanowires. Nano Letters, 2012, 12, 1340-1343.	9.1	65
53	Nanoscale InGaSb Heterostructure Membranes on Si Substrates for High Hole Mobility Transistors. Nano Letters, 2012, 12, 2060-2066.	9.1	85
54	High optical quality polycrystalline indium phosphide grown on metal substrates by metalorganic chemical vapor deposition. Journal of Applied Physics, 2012, 111, 123112.	2.5	21

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55	Nanopillar photovoltaics: Materials, processes, and devices. Nano Energy, 2012, 1, 132-144.	16.0	142
56	p-Type InP Nanopillar Photocathodes for Efficient Solar-Driven Hydrogen Production. Angewandte Chemie - International Edition, 2012, 51, 10760-10764.	13.8	245
57	Ultra-thin compound semiconductor on insulator (XOI) for MOSFETs and TFETs. , 2011, , .		1
58	Development of a compact neutron source based on field ionization processes. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2011, 29, 02B107.	1.2	16
59	Roll-to-Roll Anodization and Etching of Aluminum Foils for High-Throughput Surface Nanotexturing. Nano Letters, 2011, 11, 3425-3430.	9.1	58
60	Quantum Confinement Effects in Nanoscale-Thickness InAs Membranes. Nano Letters, 2011, 11, 5008-5012.	9.1	97
61	Nanoscale Semiconductor "on Substrate" Processes, Devices, and Applications. Advanced Materials, 2011, 23, 3115-3127.	21.0	42
62	Rationally Designed, Three-Dimensional Carbon Nanotube Back-Contacts for Efficient Solar Devices. Advanced Energy Materials, 2011, 1, 1040-1045.	19.5	27
63	Molecular monolayers for conformal, nanoscale doping of InP nanopillar photovoltaics. Applied Physics Letters, 2011, 98, .	3.3	54
64	Benchmarking the performance of ultrathin body InAs-on-insulator transistors as a function of body thickness. Applied Physics Letters, 2011, 99, .	3.3	40
65	Flexible Carbon-Nanofiber Connectors with Anisotropic Adhesion Properties. Small, 2010, 6, 22-26.	10.0	44
66	Ultrathin compound semiconductor on insulator layers for high-performance nanoscale transistors. Nature, 2010, 468, 286-289.	27.8	373
67	Design constraints and guidelines for CdS/CdTe nanopillar based photovoltaics. Applied Physics Letters, 2010, 96, .	3.3	78
68	Shape-Controlled Synthesis of Single-Crystalline Nanopillar Arrays by Template-Assisted Vapor-Liquid-Solid Process. Journal of the American Chemical Society, 2010, 132, 13972-13974.	13.7	29
69	Ordered Arrays of Dual-Diameter Nanopillars for Maximized Optical Absorption. Nano Letters, 2010, 10, 3823-3827.	9.1	269
70	Black Ge Based on Crystalline/Amorphous Core/Shell Nanoneedle Arrays. Nano Letters, 2010, 10, 520-523.	9.1	68
71	7.3: Development of a compact neutron source based on field ionization processes. , 2010, , .		0
72	Nanowire-based 2-D and 3-D XoY electronics. , 2010, , .		0

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73	Hybrid core-multishell nanowire forests for electrical connector applications. Applied Physics Letters, 2009, 94, 263110.	3.3	28
74	Challenges and prospects of nanopillar-based solar cells. Nano Research, 2009, 2, 829.	10.4	223