Ritesh Agarwal

List of Publications by Year
in descending order

113 papers	10,892 citations	38660 50 h-index	30010 103 g-index
116 all docs	116 docs citations	116 times ranked	12685 citing authors

#	Article	IF	Citations
1	Exchange couplingâ€“mediated broken symmetries in Ta ₂ NiSe ₅ revealed from quadrupolar circular photogalvanic effect. Science Advances, 2022, 8, eabl9020.	4.7	3
2	Real-time nanomechanical property modulation as a framework for tunable NEMS. Nature Communications, 2022, 13, 1464.	5.8	12
3	Vortex microlaser with ultrafast tunability. , 2021, , .		0
4	Higher-dimensional supersymmetric microlaser arrays. Science, 2021, 372, 403-408.	6.0	51
5	Supersymmetric Microlaser Arrays in Two Dimensions and Beyond. , 2021, , .		0
6	Observation and Active Control of a Collective Polariton Mode and Polaritonic Band Gap in Few-Layer WS₂ Strongly Coupled with Plasmonic Lattices. Nano Letters, 2020, 20, 790-798.	4.5	25
7	Generation of helical topological exciton-polaritons. Science, 2020, 370, 600-604.	6.0	97
8	On-the-fly closed-loop materials discovery via Bayesian active learning. Nature Communications, 2020, 11, 5966.	5.8	167
9	Coherent Interactions in One-Dimensional Topological Photonic Systems and Their Applications in All-Optical Logic Operation. Nano Letters, 2020, 20, 8796-8802.	4.5	20
10	Self-aligned on-chip coupled photonic devices using individual cadmium sulfide nanobelts. Nano Research, 2020, 13, 1413-1418.	5.8	7
11	Tunable topological charge vortex microlaser. Science, 2020, 368, 760-763.	6.0	180
12	Photocurrent detection of the orbital angular momentum of light. Science, 2020, 368, 763-767.	6.0	113
13	Strain-engineered high-responsivity MoTe2 photodetector for silicon photonic integrated circuits. Nature Photonics, 2020, 14, 578-584.	15.6	172
14	Mechanism of Extreme Optical Nonlinearities in Spiral WS₂ above the Bandgap. Nano Letters, 2020, 20, 2667-2673.	4.5	25
15	Z₂ Photonic Topological Insulators in the Visible Wavelength Range for Robust Nanoscale Photonics. Nano Letters, 2020, 20, 1329-1335.	4.5	42
16	Low-Power Switching through Disorder and Carrier Localization in Bismuth-Doped Germanium Telluride Phase Change Memory Nanowires. ACS Nano, 2020, 14, 2162-2171.	7.3	13
17	Tunable geometric photocurrent in van der Waals heterostructure. Optica, 2020, 7, 1204.	4.8	9
18	Spatially dispersive circular photogalvanic effect in a Weyl semimetal. Nature Materials, 2019, 18, 955-962.	13.3	99

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19	Cavity Engineering of Photonâ€“Phonon Interactions in Si Nanocavities. Nano Letters, 2019, 19, 7950-7956.	4.5	5
20	Nanocavity-Enhanced Giant Stimulated Raman Scattering in Si Nanowires in the Visible Light Region. Nano Letters, 2019, 19, 1204-1209.	4.5	17
21	Phononâ€Assisted Electroâ€Optical Switches and Logic Gates Based on Semiconductor Nanostructures. Advanced Materials, 2019, 31, e1901263.	11.1	21
22	Room temperature polariton lasing in quantum heterostructure nanocavities. Science Advances, 2019, 5, eaau9338.	4.7	42
23	A semi-empirical integrated microring cavity approach for 2D material optical index identification at 1.55 Î¼m. Nanophotonics, 2019, 8, 435-441.	2.9	27
24	Optically Controlled Orbitronics on a Triangular Lattice. Physical Review Letters, 2019, 123, 236403.	2.9	28
25	Electrically programmable multi-purpose nonvolatile metasurface based on phase change materials. Physica Scripta, 2019, 94, 025803.	1.2	8
26	2D material printer: a deterministic cross contamination-free transfer method for atomically layered materials. 2D Materials, 2019, 6, 015006.	2.0	32
27	Loss and coupling tuning via heterogeneous integration of MoS2 layers in silicon photonics [Invited]. Optical Materials Express, 2019, 9, 751.	1.6	32
28	Anion Exchange in IIâ€“VI Semiconducting Nanostructures via Atomic Templating. Nano Letters, 2018, 18, 1620-1627.	4.5	11
29	Strong modulation of second-harmonic generation with very large contrast in semiconducting CdS via high-field domain. Nature Communications, 2018, 9, 186.	5.8	24
30	2D materials in electro-optic modulation: energy efficiency, electrostatics, mode overlap, material transfer and integration. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	1.1	9
31	Understanding the Different Excitonâ€“Plasmon Coupling Regimes in Two-Dimensional Semiconductors Coupled with Plasmonic Lattices: A Combined Experimental and Unified Equation of Motion Approach. ACS Photonics, 2018, 5, 192-204.	3.2	30
32	Ultrasensitive, Mechanically Responsive Optical Metasurfaces <i>via</i> Strain Amplification. ACS Nano, 2018, 12, 10683-10692.	7.3	34
33	Engineering Localized Surface Plasmon Interactions in Gold by Silicon Nanowire for Enhanced Heating and Photocatalysis. Nano Letters, 2017, 17, 1839-1845.	4.5	50
34	Inverting polar domains via electrical pulsing in metallic germanium telluride. Nature Communications, 2017, 8, 15033.	5.8	29
35	Strain Multiplexed Metasurface Holograms on a Stretchable Substrate. Nano Letters, 2017, 17, 3641-3645.	4.5	216
36	Electrical Tuning of Excitonâ€“Plasmon Polariton Coupling in Monolayer MoS₂ Integrated with Plasmonic Nanoantenna Lattice. Nano Letters, 2017, 17, 4541-4547.	4.5	117

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37	Mixed-Mode Operation of Hybrid Phase-Change Nanophotonic Circuits. Nano Letters, 2017, 17, 150-155.	4.5	148
38	Active material, optical mode and cavity impact on nanoscale electro-optic modulation performance. Nanophotonics, 2017, 7, 455-472.	2.9	55
39	A deterministic guide for material and mode dependence of on-chip electro-optic modulator performance. Solid-State Electronics, 2017, 136, 92-101.	0.8	41
40	Novel Classical and Quantum Photonic Devices by Manipulating Light-matter Interactions in One and Two-Dimensional Systems. , 2017, , .		0
41	Voltage tunable dual wavelength light source via optomechanically controlled CdS nanoplates. , 2017, , .		0
42	Implications of Active Material and Optical Mode on Nanoscale Electro-Optic Modulation. , 2017, , .		4
43	Emission energy, exciton dynamics and lasing properties of buckled CdS nanoribbons. Scientific Reports, 2016, 6, 26607.	1.6	6
44	Electromechanically reconfigurable CdS nanoplate based nonlinear optical device. Optics Express, 2016, 24, 13459.	1.7	0
45	Low threshold, single-mode laser based on individual CdS nanoribbons in dielectric DBR microcavity. Nano Energy, 2016, 30, 481-487.	8.2	46
46	Study of photoconduction properties of CVD grown Î²-Ga2O3 nanowires. Journal of Alloys and Compounds, 2016, 683, 143-148.	2.8	26
47	Nanotwin Detection and Domain Polarity Determination via Optical Second Harmonic Generation Polarimetry. Nano Letters, 2016, 16, 4404-4409.	4.5	12
48	Strong Excitonâ€“Plasmon Coupling in MoS₂ Coupled with Plasmonic Lattice. Nano Letters, 2016, 16, 1262-1269.	4.5	331
49	Observing Oxygen Vacancy Driven Electroforming in Ptâ€“TiO₂â€“Pt Device via Strong Metal Support Interaction. Nano Letters, 2016, 16, 2139-2144.	4.5	73
50	Tunable Metasurface and Flat Optical Zoom Lens on a Stretchable Substrate. Nano Letters, 2016, 16, 2818-2823.	4.5	475
51	Ultralow-power switching via defect engineering in germanium telluride phase-change memory devices. Nature Communications, 2016, 7, 10482.	5.8	57
52	Optomechanical Enhancement of Doubly Resonant 2D Optical Nonlinearity. Nano Letters, 2016, 16, 1631-1636.	4.5	71
53	Seeded growth of highly crystalline molybdenum disulphide monolayers at controlled locations. Nature Communications, 2015, 6, 6128.	5.8	259
54	Voltage-tunable circular photogalvanic effect in silicon nanowires. Science, 2015, 349, 726-729.	6.0	73

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55	Fano Resonance and Spectrally Modified Photoluminescence Enhancement in Monolayer MoS₂ Integrated with Plasmonic Nanoantenna Array. Nano Letters, 2015, 15, 3646-3653.	4.5	246
56	Real-Time Observation of Morphological Transformations in IIâ€"VI Semiconducting Nanobelts via Environmental Transmission Electron Microscopy. Nano Letters, 2015, 15, 3303-3308.	4.5	13
57	Uniform Bimetallic Nanocrystals by High-Temperature Seed-Mediated Colloidal Synthesis and Their Catalytic Properties for Semiconducting Nanowire Growth. Chemistry of Materials, 2015, 27, 5833-5838.	3.2	27
58	Crystallographic Characterization of IIâ€"VI Semiconducting Nanostructures via Optical Second Harmonic Generation. Nano Letters, 2015, 15, 7341-7346.	4.5	45
59	Plasmon excitation of coherent interface phonons in Si-SiO<inf>2</inf> systems. , 2014, , .		0
60	Enhanced second-harmonic generation from metal-integrated semiconductor nanowires via highly confined whispering gallery modes. Nature Communications, 2014, 5, 5432.	5.8	72
61	Tailoring Light-Matter Interactions in Semiconductor Nanowires with Nanocavity Plasmons. , 2014, , .		0
62	Resolving Parity and Order of Fabryâ€"PÃ©rot Modes in Semiconductor Nanostructure Waveguides and Lasers: Youngâ€™s Interference Experiment Revisited. Nano Letters, 2014, 14, 6564-6571.	4.5	34
63	Studies of Hot Photoluminescence in Plasmonically Coupled Silicon via Variable Energy Excitation and Temperature-Dependent Spectroscopy. Nano Letters, 2014, 14, 5413-5422.	4.5	18
64	Reply to 'Hot photoluminescence or Raman scattering?'. Nature Photonics, 2014, 8, 667-668.	15.6	1
65	Tailoring lightâ€"matter coupling in semiconductor and hybrid-plasmonic nanowires. Reports on Progress in Physics, 2014, 77, 086401.	8.1	50
66	Tailoring the Spectroscopic Properties of Semiconductor Nanowires via Surface-Plasmon-Based Optical Engineering. Journal of Physical Chemistry Letters, 2014, 5, 3768-3780.	2.1	12
67	Direct Observation of Metalâ€"Insulator Transition in Single-Crystalline Germanium Telluride Nanowire Memory Devices Prior to Amorphization. Nano Letters, 2014, 14, 2201-2209.	4.5	59
68	Strain-Induced Large Exciton Energy Shifts in Buckled CdS Nanowires. Nano Letters, 2013, 13, 3836-3842.	4.5	53
69	The Effect of Solvatochromism on the Interfacial Morphology of P3HT-CdS Nanowire Nanohybrids. Nano Letters, 2013, 13, 3760-3765.	4.5	10
70	Silicon coupled with plasmon nanocavities generates bright visible hot luminescence. Nature Photonics, 2013, 7, 285-289.	15.6	122
71	Size-dependent chemical transformation, structural phase change, and optical properties of nanowires. Philosophical Magazine, 2013, 93, 2089-2121.	0.7	23
72	Obtaining bright visible light emission from â€œBulkâ€•silicon by nanocavity plasmons. , 2013, , .		0

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73	Electrical Wind Forceâ€“Driven and Dislocation-Templated Amorphization in Phase-Change Nanowires. Science, 2012, 336, 1561-1566.	6.0	162
74	All-optical active switching in individual semiconductor nanowires. Nature Nanotechnology, 2012, 7, 640-645.	15.6	241
75	High-Resolution Transmission Electron Microscopy Study of Electrically-Driven Reversible Phase Change in Ge₂Sb₂Te₅ Nanowires. Nano Letters, 2011, 11, 1364-1368.	4.5	58
76	Variable Temperature Spectroscopy of As-Grown and Passivated CdS Nanowire Optical Waveguide Cavities. Journal of Physical Chemistry A, 2011, 115, 3827-3833.	1.1	28
77	Enhancement of Interfacial Polymer Crystallinity Using Chromism in Single Inorganic Nanowireâ€“Polymer Nanohybrids for Photovoltaic Applications. Nano Letters, 2011, 11, 3460-3467.	4.5	20
78	Switching in Polaritonicâ€“Photonic Crystal Nanofibers Doped with Quantum Dots. Nano Letters, 2011, 11, 5284-5289.	4.5	15
79	Tailoring hot-exciton emission and lifetimes in semiconducting nanowires via whispering-gallery nanocavity plasmons. Nature Materials, 2011, 10, 669-675.	13.3	140
80	Chalcogenide phase-change memory nanotubes for lower writing current operation. Nanotechnology, 2011, 22, 254012.	1.3	18
81	One-dimensional polaritons with size-tunable and enhanced coupling strengths in semiconductor nanowires. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10050-10055.	3.3	84
82	Extremely low drift of resistance and threshold voltage in amorphous phase change nanowire devices. Applied Physics Letters, 2010, 96, .	1.5	91
83	Incorporating polaritonic effects in semiconductor nanowire waveguide dispersion. Applied Physics Letters, 2010, 97, .	1.5	49
84	Nanowire Transformation by Size-Dependent Cation Exchange Reactions. Nano Letters, 2010, 10, 149-155.	4.5	74
85	Propagation Loss Spectroscopy on Single Nanowire Active Waveguides. Nano Letters, 2010, 10, 2251-2256.	4.5	53
86	Rectifying junctions of tin oxide and poly(3-hexylthiophene) nanofibers fabricated via electrospinning. Applied Physics Letters, 2009, 94, .	1.5	22
87	Diameter-Controlled Synthesis of Phase-Change Germanium Telluride Nanowires via the Vaporâˆ'Liquidâˆ'Solid Mechanism. Journal of Physical Chemistry C, 2009, 113, 6898-6901.	1.5	25
88	Size-Dependent Waveguide Dispersion in Nanowire Optical Cavities: Slowed Light and Dispersionless Guiding. Nano Letters, 2009, 9, 1684-1688.	4.5	63
89	Phase-Change Geâˆ'Sb Nanowires: Synthesis, Memory Switching, and Phase-Instability. Nano Letters, 2009, 9, 2103-2108.	4.5	37
90	Epitaxial Growth and Ordering of GeTe Nanowires on Microcrystals Determined by Surface Energy Minimization. Nano Letters, 2009, 9, 2395-2401.	4.5	28

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91	Semiconductor nanowire devices. Nano Today, 2008, 3, 12-22.	6.2	277
92	Heterointerfaces in Semiconductor Nanowires. Small, 2008, 4, 1872-1893.	5.2	120
93	Comparative study of memory-switching phenomena in phase change GeTe and Ge2Sb2Te5 nanowire devices. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2474-2480.	1.3	36
94	CoreâShell Heterostructured Phase Change Nanowire Multistate Memory. Nano Letters, 2008, 8, 2056-2062.	4.5	103
95	A Generic Approach for Embedded Catalyst-Supported Vertically Aligned Nanowire Growth. Nano Letters, 2008, 8, 1328-1334.	4.5	20
96	Size-Dependent Surface-Induced Heterogeneous Nucleation Driven Phase-Change in Ge2Sb2Te5 Nanowires. Nano Letters, 2008, 8, 3303-3309.	4.5	72
97	Synthesis and Structural Characterization of Single-Crystalline Branched Nanowire Heterostructures. Nano Letters, 2007, 7, 264-268.	4.5	165
98	Highly scalable non-volatile and ultra-low-power phase-change nanowire memory. Nature Nanotechnology, 2007, 2, 626-630.	15.6	389
99	Size-dependent phase transition memory switching behavior and low writing currents in GeTe nanowires. Applied Physics Letters, 2006, 89, 223116.	1.5	116
100	Synthesis and Characterization of Ge2Sb2Te5Nanowires with Memory Switching Effect. Journal of the American Chemical Society, 2006, 128, 14026-14027.	6.6	111
101	Nanoscale avalanche photodiodes for highly sensitive and spatially resolved photon detection. Nature Materials, 2006, 5, 352-356.	13.3	397
102	Semiconductor nanowires: optics and optoelectronics. Applied Physics A: Materials Science and Processing, 2006, 85, 209-215.	1.1	266
103	Manipulation and assembly of nanowires with holographic optical traps. Optics Express, 2005, 13, 8906.	1.7	267
104	Lasing in Single Cadmium Sulfide Nanowire Optical Cavities. Nano Letters, 2005, 5, 917-920.	4.5	342
105	Single-nanowire electrically driven lasers. Nature, 2003, 421, 241-245.	13.7	2,344
106	Two Dimensional Electronic Spectroscopy. Bulletin of the Korean Chemical Society, 2003, 24, 1081-1090.	1.0	8
107	Two-Color Three Pulse Photon Echo Peak Shift Spectroscopy. Springer Series in Chemical Physics, 2003, , 532-534.	0.2	0
108	Nature of Disorder and Inter-Complex Energy Transfer in LH2 at Room Temperature:â€‰ A Three Pulse Photon Echo Peak Shift Study. Journal of Physical Chemistry A, 2002, 106, 7573-7578.	1.1	55

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109	Two-color three pulse photon echo peak shift spectroscopy. Journal of Chemical Physics, 2002, 116, 6243-6252.	1.2	54
110	Three Pulse Photon Echo Peak Shift Study of the B800 Band of the LH2 Complex of Rps. acidophila at Room Temperature:â€‰ A Coupled Master Equation and Nonlinear Optical Response Function Approach. Journal of Physical Chemistry B, 2001, 105, 1887-1894.	1.2	58
111	The mechanism of energy transfer in the antenna of photosynthetic purple bacteria. Journal of Photochemistry and Photobiology A: Chemistry, 2001, 142, 107-119.	2.0	60
112	Ultrafast Energy Transfer in LHC-II Revealed by Three-Pulse Photon Echo Peak Shift Measurements. Journal of Physical Chemistry B, 2000, 104, 2908-2918.	1.2	109
113	Three-Pulse Photon Echo Measurements on the Accessory Pigments in the Reaction Center of Rhodobacter sphaeroides. Journal of Physical Chemistry B, 1998, 102, 5923-5931.	1.2	83