P James Schuck

List of Publications by Year
in descending order

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60 papers	4,533 citations	147726 31 h-index	138417 58 g-index
60 all docs	60 docs citations	60 times ranked	6040 citing authors

#	Article	IF	Citations
1	Chemical crystallography by serial femtosecond X-ray diffraction. Nature, 2022, 601, 360-365.	13.7	33
2	Nano-spectroscopy of excitons in atomically thin transition metal dichalcogenides. Nature Communications, 2022, 13, 542.	5.8	23
3	In-Plane Anisotropy in Biaxial ReS₂ Crystals Probed by Nano-Optical Imaging of Waveguide Modes. ACS Photonics, 2022, 9, 443-451.	3.2	12
4	Near-field nanoscopy of excitons and ultrafast interlayer dynamics in van der Waals crystals. , 2022, , .		0
5	Nanoscale Optical Imaging of 2D Semiconductor Stacking Orders by Excitonâ€Enhanced Second Harmonic Generation. Advanced Optical Materials, 2022, 10, .	3.6	9
6	Sizeâ€Dependent Photon Avalanching in Tm³⁺ Doped LiYF₄ Nano, Micro, and Bulk Crystals. Advanced Optical Materials, 2022, 10, .	3.6	13
7	Strongly Quantum-Confined Blue-Emitting Excitons in Chemically Configurable Multiquantum Wells. ACS Nano, 2021, 15, 4085-4092.	7.3	21
8	Anisotropic 2D excitons unveiled in organicâ€“inorganic quantum wells. Materials Horizons, 2021, 8, 197-208.	6.4	17
9	Optical parametric amplification by monolayer transition metal dichalcogenides. Nature Photonics, 2021, 15, 6-10.	15.6	74
10	Giant nonlinear optical responses from photon-avalanching nanoparticles. Nature, 2021, 589, 230-235.	13.7	167
11	0D Nanocrystals as Lightâ€Driven, Localized Chargeâ€Injection Sources for the Contactless Manipulation of Atomically Thin 2D Materials. Advanced Photonics Research, 2021, 2, 2000151.	1.7	9
12	Programmable hyperbolic polaritons in van der Waals semiconductors. Science, 2021, 371, 617-620.	6.0	58
13	Enhanced tunable second harmonic generation from twistable interfaces and vertical superlattices in boron nitride homostructures. Science Advances, 2021, 7, .	4.7	73
14	Nanoscale lattice dynamics in hexagonal boron nitride moirÃ© superlattices. Nature Communications, 2021, 12, 5741.	5.8	34
15	Standardization of Methodology of Light-to-Heat Conversion Efficiency Determination for Colloidal Nanoheaters. ACS Applied Materials & Interfaces, 2021, 13, 44556-44567.	4.0	27
16	Damage-Free Atomic Layer Etch of WSe₂: A Platform for Fabricating Clean Two-Dimensional Devices. ACS Applied Materials & Interfaces, 2021, 13, 1930-1942.	4.0	24
17	Surface-Sensitive Photon Avalanche Behavior Revealed by Single-Avalanching-Nanoparticle Imaging. Journal of Physical Chemistry C, 2021, 125, 23976-23982.	1.5	10
18	Predicting the impact of temperature dependent multi-phonon relaxation processes on the photon avalanche behavior in Tm3+: NaYF4 nanoparticles. Optical Materials: X, 2021, 12, 100102.	0.3	6

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19	(INVITED) Infrared-to-ultraviolet upconverting nanoparticles for COVID-19-related disinfection applications. Optical Materials: X, 2021, 12, 100099.	0.3	6
20	Manipulation of Exciton Dynamics in Single-Layer WSe₂ Using a Toroidal Dielectric Metasurface. Nano Letters, 2021, 21, 9930-9938.	4.5	14
21	Continuous Wave Sum Frequency Generation and Imaging of Monolayer and Heterobilayer Two-Dimensional Semiconductors. ACS Nano, 2020, 14, 708-714.	7.3	41
22	Room-temperature continuous-wave upconverting micro- and nanolasing for bio-optofluidics. EPJ Web of Conferences, 2020, 238, 07005.	0.1	0
23	Imaging strain-localized excitons in nanoscale bubbles of monolayer WSe2 at room temperature. Nature Nanotechnology, 2020, 15, 854-860.	15.6	134
24	The ultrafast onset of exciton formation in 2D semiconductors. Nature Communications, 2020, 11, 5277.	5.8	57
25	Selectively accessing the hotspots of optical nanoantennas by self-aligned dry laser ablation. Nanoscale, 2020, 12, 19170-19177.	2.8	2
26	Light-Driven Permanent Charge Separation across a Hybrid Zero-Dimensional/Two-Dimensional Interface. Journal of Physical Chemistry C, 2020, 124, 8000-8007.	1.5	14
27	Facile and quantitative estimation of strain in nanobubbles with arbitrary symmetry in 2D semiconductors verified using hyperspectral nano-optical imaging. Journal of Chemical Physics, 2020, 153, 024702.	1.2	27
28	Controlled Assembly of Upconverting Nanoparticles for Low-Threshold Microlasers and Their Imaging in Scattering Media. ACS Nano, 2020, 14, 1508-1519.	7.3	44
29	Polariton panorama. Nanophotonics, 2020, 10, 549-577.	2.9	155
30	Future and challenges for hybrid upconversion nanosystems. Nature Photonics, 2019, 13, 828-838.	15.6	145
31	Dry Transfer of van der Waals Crystals to Noble Metal Surfaces To Enable Characterization of Buried Interfaces. ACS Applied Materials & Interfaces, 2019, 11, 38218-38225.	4.0	20
32	Energy Transfer Networks within Upconverting Nanoparticles Are Complex Systems with Collective, Robust, and History-Dependent Dynamics. Journal of Physical Chemistry C, 2019, 123, 2678-2689.	1.5	57
33	Metalloâ€Hydrogelâ€Assisted Synthesis and Direct Writing of Transition Metal Dichalcogenides. Advanced Functional Materials, 2019, 29, 1807612.	7.8	12
34	Ultralow-threshold, continuous-wave upconverting lasing from subwavelength plasmons. Nature Materials, 2019, 18, 1172-1176.	13.3	160
35	Enrichment of molecular antenna triplets amplifies upconverting nanoparticle emission. Nature Photonics, 2018, 12, 402-407.	15.6	200
36	Apparent self-heating of individual upconverting nanoparticle thermometers. Nature Communications, 2018, 9, 4907.	5.8	82

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37	Photostable and efficient upconverting nanocrystal-based chemical sensors. Optical Materials, 2018, 84, 345-353.	1.7	19
38	Upconverting nanoparticle micro-lightbulbs designed for deep tissue optical stimulation and imaging. Biomedical Optics Express, 2018, 9, 4359.	1.5	16
39	Low irradiance multiphoton imaging with alloyed lanthanide nanocrystals. Nature Communications, 2018, 9, 3082.	5.8	120
40	Continuous-wave upconverting nanoparticle microlasers. Nature Nanotechnology, 2018, 13, 572-577.	15.6	188
41	Anomalous Above-Gap Photoexcitations and Optical Signatures of Localized Charge Puddles in Monolayer Molybdenum Disulfide. ACS Nano, 2017, 11, 2115-2123.	7.3	29
42	The important role of water in growth of monolayer transition metal dichalcogenides. 2D Materials, 2017, 4, 021024.	2.0	43
43	Optically Discriminating Carrier-Induced Quasiparticle Band Gap and Exciton Energy Renormalization in Monolayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MoS</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub> Physical Review Letters, 2017, 119, 087401.	2.9	74
44	On Optical Dipole Moment and Radiative Recombination Lifetime of Excitons in WSe₂. Advanced Functional Materials, 2017, 27, 1601741.	7.8	44
45	Deconvoluting the Photonic and Electronic Response of 2D Materials: The Case of MoS2. Scientific Reports, 2017, 7, 16938.	1.6	23
46	Far-field optical nanothermometry using individual sub-50 nm upconverting nanoparticles. Nanoscale, 2016, 8, 11611-11616.	2.8	24
47	Energy-Looping Nanoparticles: Harnessing Excited-State Absorption for Deep-Tissue Imaging. ACS Nano, 2016, 10, 8423-8433.	7.3	122
48	A polarizing situation: Taking an in-plane perspective for next-generation near-field studies. Frontiers of Physics, 2016, 11, 1.	2.4	8
49	Near-Field Imaging: Revealing Optical Properties of Reduced-Dimensionality Materials at Relevant Length Scales (Adv. Mater. 38/2015). Advanced Materials, 2015, 27, 5692-5692.	11.1	2
50	Visualizing nanoscale excitonic relaxation properties of disordered edges and grain boundaries in monolayer molybdenum disulfide. Nature Communications, 2015, 6, 7993.	5.8	204
51	Elucidating heterogeneity in nanoplasmonic structures using nonlinear photon localization microscopy. Journal of Optics (United Kingdom), 2014, 16, 114014.	1.0	3
52	Engineering bright sub-10-nm upconverting nanocrystals for single-molecule imaging. Nature Nanotechnology, 2014, 9, 300-305.	15.6	499
53	A single particle plasmon resonance study of 3D conical nanoantennas. Nanoscale, 2013, 5, 7861.	2.8	43
54	Hot electrons go through the barrier. Nature Nanotechnology, 2013, 8, 799-800.	15.6	68

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55	Controlled Synthesis and Single-Particle Imaging of Bright, Sub-10 nm Lanthanide-Doped Upconverting Nanocrystals. ACS Nano, 2012, 6, 2686-2692.	7.3	296
56	Sub-20 nm laser ablation for lithographic dry development. Nanotechnology, 2012, 23, 185301.	1.3	7
57	Concentrating and Recycling Energy in Lanthanide Codopants for Efficient and Spectrally Pure Emission: The Case of NaYF₄:Er³⁺/Tm³⁺ Upconverting Nanocrystals. Journal of Physical Chemistry B, 2012, 116, 10561-10570.	1.2	102
58	Gold Nanocone Near-Field Scanning Optical Microscopy Probes. ACS Nano, 2011, 5, 2570-2579.	7.3	82
59	Hyperspectral Nanoscale Imaging on Dielectric Substrates with Coaxial Optical Antenna Scan Probes.. Nano Letters, 2011, 11, 1201-1207.	4.5	111
60	Non-blinking and photostable upconverted luminescence from single lanthanide-doped nanocrystals. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10917-10921.	3.3	626