Semion K Saikin

List of Publications by Year
in descending order

70 papers	2,902 citations	185998 28 h-index	174990 52 g-index
74 all docs	74 docs citations	74 times ranked	4424 citing authors

#	Article	IF	Citations
1	Accelerating the discovery of materials for clean energy in the era of smart automation. Nature Reviews Materials, 2018, 3, 5-20.	23.3	489
2	Photonics meets excitonics: natural and artificial molecular aggregates. Nanophotonics, 2013, 2, 21-38.	2.9	195
3	Autonomous experimentation systems for materials development: A community perspective. Matter, 2021, 4, 2702-2726.	5.0	143
4	Separation of Electromagnetic and Chemical Contributions to Surface-Enhanced Raman Spectra on Nanoengineered Plasmonic Substrates. Journal of Physical Chemistry Letters, 2010, 1, 2740-2746.	2.1	106
5	Strong coupling between chlorosomes of photosynthetic bacteria and a confined optical cavity mode. Nature Communications, 2014, 5, 5561.	5.8	102
6	On the chemical bonding effects in the Raman response: Benzenethiol adsorbed on silver clusters. Physical Chemistry Chemical Physics, 2009, 11, 9401.	1.3	91
7	Atomistic Study of Energy Funneling in the Light-Harvesting Complex of Green Sulfur Bacteria. Journal of the American Chemical Society, 2014, 136, 2048-2057.	6.6	78
8	Experimental and theoretical study of the crystal-field levels and hyperfine and electron-phonon interactions inLiYF4:Er3+. Physical Review B, 2000, 61, 7421-7427.	1.1	74
9	The nucleus of endothelial cell as a sensor of blood flow direction. Biology Open, 2013, 2, 1007-1012.	0.6	74
10	Single-electron spin decoherence by nuclear spin bath: Linked-cluster expansion approach. Physical Review B, 2007, 75, .	1.1	73
11	Fast Initialization of the Spin State of an Electron in a Quantum Dot in the Voigt Configuration. Physical Review Letters, 2007, 98, 047401.	2.9	72
12	Autonomous Molecular Design: Then and Now. ACS Applied Materials & Interfaces, 2019, 11, 24825-24836.	4.0	69
13	Plexciton Dirac points and topological modes. Nature Communications, 2016, 7, 11783.	5.8	66
14	Semiclassical Monte Carlo model for in-plane transport of spin-polarized electrons in IIIâ€“V heterostructures. Journal of Applied Physics, 2003, 94, 1769-1775.	1.1	65
15	Exciton transport in thin-film cyanine dye J-aggregates. Journal of Chemical Physics, 2012, 137, 034109.	1.2	65
16	Memory-Assisted Exciton Diffusion in the Chlorosome Light-Harvesting Antenna of Green Sulfur Bacteria. Journal of Physical Chemistry Letters, 2012, 3, 2357-2361.	2.1	63
17	Topologically protected excitons in porphyrin thinÂfilms. Nature Materials, 2014, 13, 1026-1032.	13.3	55
18	Blood flow-induced Notch activation and endothelial migration enable vascular remodeling in zebrafish embryos. Nature Communications, 2018, 9, 5314.	5.8	54

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19	Compressed Sensing for Multidimensional Spectroscopy Experiments. Journal of Physical Chemistry Letters, 2012, 3, 2697-2702.	2.1	50
20	A Nanophotonic Structure Containing Living Photosynthetic Bacteria. Small, 2017, 13, 1701777.	5.2	46
21	A drift-diffusion model for spin-polarized transport in a two-dimensional non-degenerate electron gas controlled by spinâ€“orbit interaction. Journal of Physics Condensed Matter, 2004, 16, 5071-5081.	0.7	41
22	Theoretical characterization of excitation energy transfer in chlorosome light-harvesting antennae from green sulfur bacteria. Photosynthesis Research, 2014, 120, 273-289.	1.6	41
23	Closed-loop discovery platform integration is needed for artificial intelligence to make an impact in drug discovery. Expert Opinion on Drug Discovery, 2019, 14, 1-4.	2.5	37
24	Quantum Nonlinear Optics with Polar J-Aggregates in Microcavities. Journal of Physical Chemistry Letters, 2014, 5, 3708-3715.	2.1	34
25	Theoretical studies of electron-vibrational 4fNâ€“4fNâ^'15d spectra in LiYF4:RE3+ crystals. Journal of Luminescence, 2007, 125, 175-183.	1.5	32
26	Microcavity-like exciton-polaritons can be the primary photoexcitation in bare organic semiconductors. Nature Communications, 2021, 12, 6519.	5.8	32
27	Fast Delocalization Leads To Robust Long-Range Excitonic Transfer in a Large Quantum Chlorosome Model. Nano Letters, 2015, 15, 1722-1729.	4.5	29
28	Modulation of spin dynamics in a channel of a nonballistic spin field effect transistor. Physical Review B, 2004, 70, .	1.1	28
29	Spin dynamics in a compound semiconductor spintronic structure with a Schottky barrier. Journal of Physics Condensed Matter, 2006, 18, 1535-1544.	0.7	28
30	Probing biological light-harvesting phenomena by optical cavities. Physical Review B, 2012, 85, .	1.1	28
31	Relaxation of Shallow Donor Electron Spin Due to Interaction with Nuclear Spin Bath. Nano Letters, 2002, 2, 651-655.	4.5	27
32	Nonlinear Raman Effects Enhanced by Surface Plasmon Excitation in Planar Refractory Nanoantennas. Nano Letters, 2017, 17, 5533-5539.	4.5	27
33	Nonideality of quantum operations with the electron spin of a31Pdonor in a Si crystal due to interaction with a nuclear spin system. Physical Review B, 2003, 67, .	1.1	25
34	Modelling for semiconductor spintronics. IET Circuits, Devices and Systems, 2005, 152, 366.	0.6	23
35	Measurement of the absolute Raman cross section of the optical phonon in silicon. Solid State Communications, 2011, 151, 553-556.	0.9	23
36	Exploring Electronic Structure and Order in Polymers via Single-Particle Microresonator Spectroscopy. Nano Letters, 2018, 18, 1600-1607.	4.5	23

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37	Monte Carlo modeling of spin FETs controlled by spinâ€“orbit interaction. Mathematics and Computers in Simulation, 2004, 65, 351-363.	2.4	22
38	On the Long-Range Exciton Transport in Molecular Systems: The Application to H-Aggregated Heterotriangulene Chains. Journal of Physical Chemistry C, 2017, 121, 24994-25002.	1.5	21
39	Mapping Forbidden Emission to Structure in Self-Assembled Organic Nanoparticles. Journal of the American Chemical Society, 2018, 140, 15827-15841.	6.6	21
40	Increase of SERS Signal upon Heating or Exposure to a High-Intensity Laser Field: Benzenethiol on an AgFON Substrate. Journal of Physical Chemistry C, 2012, 116, 16656-16659.	1.5	20
41	Anisotropy and Controllable Band Structure in Suprawavelength Polaritonic Metasurfaces. Physical Review Letters, 2019, 122, 173902.	2.9	20
42	Phonon-assisted recombination in Fe-based spin LEDs. Physical Review B, 2006, 73, .	1.1	18
43	Measurement of the absolute Raman cross section of the optical phonons in type Ia natural diamond. Solid State Communications, 2012, 152, 204-209.	0.9	18
44	Near-field Raman dichroism of azo-polymers exposed to nanoscale dc electrical and optical poling. Nanoscale, 2016, 8, 19867-19875.	2.8	18
45	Monte Carlo modeling of spin injection through a Schottky barrier and spin transport in a semiconductor quantum well. Journal of Applied Physics, 2004, 96, 4319-4325.	1.1	17
46	Molecular Emission near Metal Interfaces: The Polaritonic Regime. Journal of Physical Chemistry Letters, 2018, 9, 6511-6516.	2.1	17
47	Study of Spin-Polarized Transport Properties for Spin-FET Design Optimization. IEEE Nanotechnology Magazine, 2004, 3, 173-179.	1.1	16
48	Chromatic acclimation and population dynamics of green sulfur bacteria grown with spectrally tailored light. Scientific Reports, 2014, 4, 5057.	1.6	15
49	Isotopic disorder in Ge single crystals probed with73GeNMR. Physical Review B, 2003, 68, .	1.1	14
50	Temperature and Carbon Assimilation Regulate the Chlorosome Biogenesis in Green Sulfur Bacteria. Biophysical Journal, 2013, 105, 1346-1356.	0.2	14
51	73Ge NMR spectra in germanium single crystals with different isotopic composition. Applied Magnetic Resonance, 1999, 17, 557-576.	0.6	13
52	Electromagnetic Study of the Chlorosome Antenna Complex of Chlorobium tepidum. ACS Nano, 2014, 8, 3884-3894.	7.3	12
53	Photoinduced Heating of Freestanding Azo-Polymer Thin Films Monitored by Scanning Thermal Microscopy. Journal of Physical Chemistry C, 2017, 121, 3007-3012.	1.5	12
54	From Absorption Spectra to Charge Transfer in Nanoaggregates of Oligomers with Machine Learning. ACS Nano, 2020, 14, 6589-6598.	7.3	12

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55	Adiabatic optical entanglement between electron spins in separate quantum dots. Physical Review B, 2008, 78, .	1.1	11
56	Spin Injection in Spin FETs Using a Step-Doping Profile. IEEE Nanotechnology Magazine, 2005, 4, 40-44.	1.1	10
57	Theoretical studies of nonradiative 4fâ€“4f multiphonon transitions in dielectric crystals containing rare earth ions. Journal of Molecular Structure, 2007, 838, 170-175.	1.8	9
58	State-by-State Investigation of Destructive Interference in Resonance Raman Spectra of Neutral Tyrosine and the Tyrosinate Anion with the Simplified Sum-over-States Approach. Journal of Physical Chemistry A, 2014, 118, 9675-9686.	1.1	9
59	Quadrupole Effects on ⁷³Ge NMR Spectra in Isotopically Controlled Ge Single Crystals. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2000, 55, 105-110.	0.7	8
60	Monte Carlo Simulation of Spin-Polarized Transport. Lecture Notes in Computer Science, 2003, , 881-891.	1.0	8
61	Theory of isotopic effects in the optical spectra of lanthanide ions in crystals. , 1996, 2706, 193.		6
62	Parametric hierarchical matrix approach for the wideband optical response of large-scale molecular aggregates. Journal of Applied Physics, 2013, 114, 164315.	1.1	6
63	Optically Induced Molecular Logic Operations. ACS Nano, 2020, 14, 15248-15255.	7.3	6
64	Optical Spectra of p-Doped PEDOT Nanoaggregates Provide Insight into the Material Disorder. ACS Energy Letters, 2016, 1, 1100-1105.	8.8	5
65	Effect of secondary relaxation transitions on photo-induced anisotropy in glassy azobenzene-functionalized polymers. Journal of Materials Chemistry C, 2017, 5, 6828-6833.	2.7	4
66	Room-Temperature Phosphorescence and Low-Energy Induced Direct Triplet Excitation of Alq₃ Engineered Crystals. Journal of Physical Chemistry Letters, 2020, 11, 9364-9370.	2.1	4
67	Nuclear spin-lattice relaxation in germanium single crystals. Applied Magnetic Resonance, 1998, 14, 513-524.	0.6	3
68	Simulation of spin-polarized transport in submicrometer device structures. , 0, , .		0
69	Isotopic disorder effect in the infrared reflection spectra of 6Lix7Li1â^'xY F4 single crystals. Solid State Communications, 2007, 142, 256-260.	0.9	0
70	Professor Boris Zalmanovich Malkin. Magnetic Resonance in Solids, 2019, 21, .	0.2	0