

# Arthur R Davoyan

## List of Publications by Year in descending order

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Version: 2024-02-01

61  
papers

3,071  
citations

136740

32  
h-index

155451

55  
g-index

63  
all docs

63  
docs citations

63  
times ranked

4080  
citing authors

#	ARTICLE	IF	CITATIONS
1	Van der Waals Materials for Atomically-Thin Photovoltaics: Promise and Outlook. ACS Photonics, 2017, 4, 2962-2970.	3.2	241
2	High Photovoltaic Quantum Efficiency in Ultrathin van der Waals Heterostructures. ACS Nano, 2017, 11, 7230-7240.	7.3	193
3	A long-range polarization-controlled optical tractor beam. Nature Photonics, 2014, 8, 846-850.	15.6	190
4	Near-Unity Absorption in van der Waals Semiconductors for Ultrathin Optoelectronics. Nano Letters, 2016, 16, 5482-5487.	4.5	156
5	Quantifying the role of surface plasmon excitation and hot carrier transport in plasmonic devices. Nature Communications, 2018, 9, 3394.	5.8	147
6	All-passive nonreciprocal metastructure. Nature Communications, 2015, 6, 8359.	5.8	146
7	Nonlinear Nanofocusing in Tapered Plasmonic Waveguides. Physical Review Letters, 2010, 105, 116804.	2.9	108
8	Materials challenges for the Starshot lightsail. Nature Materials, 2018, 17, 861-867.	13.3	107
9	Nonlinear plasmonic slot waveguides. Optics Express, 2008, 16, 21209.	1.7	103
10	Self-focusing and spatial plasmon-polariton solitons. Optics Express, 2009, 17, 21732.	1.7	103
11	Plasmonic terahertz lasing in an array of graphene nanocavities. Physical Review B, 2012, 86, .	1.1	101
12	Theory of Wave Propagation in Magnetized Near-Zero-Epsilon Metamaterials: Evidence for One-Way Photonic States and Magnetically Switched Transparency and Opacity. Physical Review Letters, 2013, 111, 257401.	2.9	96
13	Optical isolation with epsilon-near-zero metamaterials. Optics Express, 2013, 21, 3279.	1.7	96
14	Hybrid exciton-plasmon-polaritons in van der Waals semiconductor gratings. Nature Communications, 2020, 11, 3552.	5.8	90
15	One-way phonon isolation in acoustic waveguides. Applied Physics Letters, 2014, 104, .	1.5	86
16	Optical magnetism in planar metamaterial heterostructures. Nature Communications, 2018, 9, 296.	5.8	63
17	Tailoring Terahertz Near-Field Enhancement via Two-Dimensional Plasmons. Physical Review Letters, 2012, 108, 127401.	2.9	58
18	Dynamically controlled Purcell enhancement of visible spontaneous emission in a gated plasmonic heterostructure. Nature Communications, 2017, 8, 1631.	5.8	56

#	ARTICLE	IF	CITATIONS
19	Nanoporous Gold as a Highly Selective and Active Carbon Dioxide Reduction Catalyst. ACS Applied Energy Materials, 2019, 2, 164-170.	2.5	55
20	Quadratic phase matching in nonlinear plasmonic nanoscale waveguides. Optics Express, 2009, 17, 20063.	1.7	51
21	Electrically controlled one-way photon flow in plasmonic nanostructures. Nature Communications, 2014, 5, 5250.	5.8	50
22	Nonreciprocal Rotating Power Flow within Plasmonic Nanostructures. Physical Review Letters, 2013, 111, 047401.	2.9	49
23	Light-matter coupling in large-area van der Waals superlattices. Nature Nanotechnology, 2022, 17, 182-189.	15.6	49
24	All van der Waals Integrated Nanophotonics with Bulk Transition Metal Dichalcogenides. ACS Photonics, 2021, 8, 721-730.	3.2	47
25	Nanoscale plasmonic circulator. New Journal of Physics, 2013, 15, 083054.	1.2	44
26	Graphene surface emitting terahertz laser: Diffusion pumping concept. Applied Physics Letters, 2013, 103, 251102.	1.5	40
27	An arrayed nanoantenna for broadband light emission and detection. Physica Status Solidi - Rapid Research Letters, 2011, 5, 347-349.	1.2	39
28	Extreme and Quantized Magneto-optics with Graphene Meta-atoms and Metasurfaces. ACS Photonics, 2014, 1, 1068-1073.	3.2	39
29	Backward and forward modes guided by metal-dielectric-metal plasmonic waveguides. Journal of Nanophotonics, 2010, 4, 043509.	0.4	38
30	Hotspots from nonreciprocal surface waves. Optics Letters, 2014, 39, 1760.	1.7	38
31	Photonic materials for interstellar solar sailing. Optica, 2021, 8, 722.	4.8	37
32	Plasmonic Bloch oscillations in chirped metal-dielectric structures. Applied Physics Letters, 2009, 94, 161105.	1.5	35
33	Enhanced emission and light control with tapered plasmonic nanoantennas. Applied Physics Letters, 2011, 99, .	1.5	29
34	Gate-Variable Mid-Infrared Optical Transitions in a $(\text{BiSb})_2\text{Te}_3$ Topological Insulator. Nano Letters, 2017, 17, 255-260.	4.5	27
35	Optimal tapers for compensating losses in plasmonic waveguides. Physica Status Solidi - Rapid Research Letters, 2010, 4, 277-279.	1.2	21
36	Multifrequency tapered plasmonic nanoantennas. Optics Communications, 2012, 285, 821-824.	1.0	21

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37	Quantum nonlinear light emission in metamaterials: broadband Purcell enhancement of parametric downconversion. <i>Optica</i> , 2018, 5, 608.	4.8	21
38	Nonreciprocal Emission in Magnetized Epsilon-Near-Zero Metamaterials. <i>ACS Photonics</i> , 2019, 6, 581-586.	3.2	21
39	Symmetry breaking in plasmonic waveguides with metal nonlinearities. <i>Optics Letters</i> , 2011, 36, 930.	1.7	20
40	NEMS With Broken T Symmetry: Graphene Based Unidirectional Acoustic Transmission Lines. <i>Scientific Reports</i> , 2015, 5, 9926.	1.6	17
41	Bloch oscillations in chirped layered structures with metamaterials. <i>Optics Express</i> , 2008, 16, 3299.	1.7	16
42	Plasmonic couplers with metal nonlinearities. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2011, 375, 1615-1618.	0.9	15
43	Mode transformation in waveguiding plasmonic structures. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2011, 9, 207-212.	1.0	14
44	Beam oscillations and curling in chirped periodic structures with metamaterials. <i>Physical Review A</i> , 2009, 79, .	1.0	13
45	One-way surface states due to nonreciprocal light-line crossing. <i>New Journal of Physics</i> , 2015, 17, 063014.	1.2	12
46	Mimicking surface polaritons for unpolarized light with high-permittivity materials. <i>Physical Review Materials</i> , 2019, 3, .	0.9	12
47	Low-Power Laser Sailing for Fast-Transit Space Flight. <i>Nano Letters</i> , 2022, 22, 1108-1114.	4.5	12
48	Perimeter-Control Architecture for Optical Phased Arrays and Metasurfaces. <i>Physical Review Applied</i> , 2020, 14, .	1.5	9
49	A fast response mission to rendezvous with an interstellar object. <i>Experimental Astronomy</i> , 2022, 53, 945-960.	1.6	8
50	Nonlinear plasmonic slot waveguides: erratum. <i>Optics Express</i> , 2009, 17, 4833.	1.7	7
51	Spatiotemporal Imaging of Thickness-Induced Band-Bending Junctions. <i>Nano Letters</i> , 2021, 21, 5745-5753.	4.5	6
52	Framework for Expediting Discovery of Optimal Solutions with Blackbox Algorithms in Non-Topology Photonic Inverse Design. <i>ACS Photonics</i> , 2022, 9, 432-442.	3.2	5
53	Tapered plasmonic Yagi-Uda nanoantennas for emission enhancement and broadband communication. , 2011, , .		3
54	Nanometer near-field localization and enhancement in a split two-dimensional plasmonic system at terahertz frequencies. <i>Optics Communications</i> , 2014, 315, 352-355.	1.0	3

#	ARTICLE	IF	CITATIONS
55	Nonlinear Plasmonics: From Second-Harmonic Generation to Spatial Solitons. , 2010, , .		1
56	Propagation of compound signals via a nonlinear magnetostatic-wave transmission line. Journal of Communications Technology and Electronics, 2010, 55, 88-97.	0.2	1
57	Nonreciprocal passive metastructure without magnetic bias. , 2013, , .		1
58	Self-similar parabolic plasmonic beams. Optics Letters, 2013, 38, 428.	1.7	1
59	Light control with atomically thin magnets. Nature Photonics, 2022, 16, 259-260.	15.6	1
60	Symmetry breaking in plasmonic waveguides with metal nonlinearities. , 2011, , .		0
61	Nonreciprocal subwavelength optical nanoantennas. , 2013, , .		0