Alejandro W Rodriguez

List of Publications by Year
in descending order

51 papers	3,262 citations	236925 25 h-index	182427 51 g-index
51 all docs	51 docs citations	51 times ranked	2938 citing authors

#	Article	IF	Citations
1	Inverse design in nanophotonics. Nature Photonics, 2018, 12, 659-670.	31.4	1,014
2	The Casimir effect in microstructured geometries. Nature Photonics, 2011, 5, 211-221.	31.4	387
3	Enhanced Spontaneous Emission at Third-Order Dirac Exceptional Points in Inverse-Designed Photonic Crystals. Physical Review Letters, 2016, 117, 107402.	7.8	181
4	Frequency-Selective Near-Field Radiative Heat Transfer between Photonic Crystal Slabs: A Computational Approach for Arbitrary Geometries and Materials. Physical Review Letters, 2011, 107, 114302.	7.8	148
5	Spike processing with a graphene excitable laser. Scientific Reports, 2016, 6, 19126.	3.3	130
6	Topology-Optimized Multilayered Metaoptics. Physical Review Applied, 2018, 9, .	3.8	129
7	Giant heat transfer in the crossover regime between conduction and radiation. Nature Communications, 2017, 8, .	12.8	121
8	Fluctuating-surface-current formulation of radiative heat transfer for arbitrary geometries. Physical Review B, 2012, 86, .	3.2	98
9	Fluctuating-surface-current formulation of radiative heat transfer: Theory and applications. Physical Review B, 2013, 88, .	3.2	90
10	Effectiveness of Thin Films in Lieu of Hyperbolic Metamaterials in the Near Field. Physical Review Letters, 2014, 112, 157402.	7.8	83
11	Shape-Independent Limits to Near-Field Radiative Heat Transfer. Physical Review Letters, 2015, 115, 204302.	7.8	76
12	Fluctuating volume-current formulation of electromagnetic fluctuations in inhomogeneous media: Incandescence and luminescence in arbitrary geometries. Physical Review B, 2015, 92, .	3.2	73
13	Classical and fluctuationâ€induced electromagnetic interactions in micronâ€scale systems: designer bonding, antibonding, and Casimir forces. Annalen Der Physik, 2015, 527, 45-80.	2.4	45
14	Control of buckling in large micromembranes using engineered support structures. Journal of Micromechanics and Microengineering, 2012, 22, 065028.	2.6	38
15	Fundamental Limits to Radiative Heat Transfer: The Limited Role of Nanostructuring in the Near-Field. Physical Review Letters, 2020, 124, 013904.	7.8	35
16	Achieving a Strongly Temperature-Dependent Casimir Effect. Physical Review Letters, 2010, 105, 060401.	7.8	34
17	Absolute position total internal reflection microscopy with an optical tweezer. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5609-15.	7.1	30
18	Ballistic near-field heat transport in dense many-body systems. Physical Review B, 2018, 97, .	3.2	29

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19	Anomalous Near-Field Heat Transfer between a Cylinder and a Perforated Surface. Physical Review Letters, 2013, 110, 014301.	7.8	28
20	On the Computation of Power in Volume Integral Equation Formulations. IEEE Transactions on Antennas and Propagation, 2015, 63, 611-620.	5.1	28
21	Enhanced nonlinear frequency conversion and Purcell enhancement at exceptional points. Physical Review B, 2017, 96, .	3.2	28
22	Radiative heat transfer in nonlinear Kerr media. Physical Review B, 2015, 91, .	3.2	27
23	Fluctuation-Induced Phenomena in Nanoscale Systems: Harnessing the Power of Noise. Proceedings of the IEEE, 2013, 101, 531-545.	21.3	26
24	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="double-struck">T</mml:mi></mml:mrow></mml:math> Operator Bounds on Angle-Integrated Absorption and Thermal Radiation for Arbitrary Objects. Physical Review Letters, 2019, 123, 257401.	7.8	26
25	Global<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="double-struck">T</mml:mi></mml:math>operator bounds on electromagnetic scattering: Upper bounds on far-field cross sections. Physical Review Research, 2020, 2, .	3.6	26
26	Unifying Microscopic and Continuum Treatments of van der Waals and Casimir Interactions. Physical Review Letters, 2017, 118, 266802.	7.8	25
27	Topology-optimized dual-polarization Dirac cones. Physical Review B, 2018, 97, .	3.2	23
28	Material scaling and frequency-selective enhancement of near-field radiative heat transfer for lossy metals in two dimensions via inverse design. Physical Review B, 2019, 99, .	3.2	23
29	Designing evanescent optical interactions to control the expression of Casimir forces in optomechanical structures. Applied Physics Letters, 2011, 98, .	3.3	22
30	Active Control of Multiple, Simultaneous Nonlinear Optical Processes in Plasmonic Nanogap Cavities. ACS Photonics, 2020, 7, 901-907.	6.6	21
31	Symmetric Plasmonic Slot Waveguides with a Nonlinear Dielectric Core: Bifurcations, Size Effects, and Higher Order Modes. Plasmonics, 2015, 10, 33-38.	3.4	20
32	Strongly coupled near-field radiative and conductive heat transfer between planar bodies. Physical Review B, 2016, 94, .	3.2	19
33	Temperature control of thermal radiation from composite bodies. Physical Review B, 2016, 93, .	3.2	18
34	Near-field refrigeration and tunable heat exchange through four-wave mixing. AIP Advances, 2018, 8, 055029.	1.3	17
35	Quantum Rabi Model with Two-Photon Relaxation. Physical Review Letters, 2019, 122, 043601.	7.8	17
36	Giant frequency-selective near-field energy transfer in activeâ€“passive structures. Physical Review B, 2016, 94, .	3.2	16

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37	Optical bistability with a repulsive optical force in coupled silicon photonic crystal membranes. Applied Physics Letters, 2013, 103, .	3.3	14
38	High-efficiency degenerate four-wave mixing in triply resonant nanobeam cavities. Physical Review A, 2014, 89, .	2.5	14
39	Phonon-Polariton Mediated Thermal Radiation and Heat Transfer among Molecules and Macroscopic Bodies: Nonlocal Electromagnetic Response at Mesoscopic Scales. Physical Review Letters, 2018, 121, 045901.	7.8	13
40	Thermal bistability through coupled photonic resonances. Applied Physics Letters, 2017, 111, 083104.	3.3	12
41	Amplified and directional spontaneous emission from arbitrary composite bodies: A self-consistent treatment of Purcell effect below threshold. Physical Review B, 2016, 93, .	3.2	11
42	Geometry-Induced Casimir Suspension of Oblate Bodies in Fluids. Physical Review Letters, 2013, 111, 180402.	7.8	8
43	Exact formulas for radiative heat transfer between planar bodies under arbitrary temperature profiles: Modified asymptotics and sign-flip transitions. Physical Review B, 2016, 94, .	3.2	8
44	Impact of nuclear vibrations on van der Waals and Casimir interactions at zero and finite temperature. Science Advances, 2019, 5, eaaw0456.	10.3	7
45	Casimir microsphere diclusters and three-body effects in fluids. Physical Review A, 2011, 83, .	2.5	6
46	General formulation of coupled radiative and conductive heat transfer between compact bodies. Physical Review B, 2017, 95, .	3.2	6
47	Nonadditivity of van der Waals forces on liquid surfaces. Physical Review E, 2016, 94, 030801.	2.1	4
48	Near-Field Radiative Heat Transfer under Temperature Gradients and Conductive Transfer. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2017, 72, 141-149.	1.5	2
49	Fluctuational electrodynamics in atomic and macroscopic systems: van der Waals interactions and radiative heat transfer. Physical Review B, 2020, 102, .	3.2	2
50	Mechanical relations between conductive and radiative heat transfer. Physical Review B, 2020, 102, .	3.2	2
51	Channel-based algebraic limits to conductive heat transfer. Physical Review B, 2020, 102, .	3.2	2