

# Hossein R Sadeghpour

## List of Publications by Year in descending order

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Version: 2024-02-01

81  
papers

2,867  
citations

257450

24  
h-index

168389

53  
g-index

81  
all docs

81  
docs citations

81  
times ranked

1578  
citing authors

#	ARTICLE	IF	CITATIONS
1	Correlated many-body noise and emergent behavior. Physical Review A, 2022, 105, .		
2	Kinetics and nucleation dynamics in ion-seeded atomic clusters. Physical Review A, 2022, 105, .	2.5	1
3	From atomic physics, to upper-atmospheric chemistry, to cosmology: A laser photometric ratio star to calibrate telescopes at major observatories. Natural Sciences, 2022, 2, .	2.1	1
4	Radiofrequency spectroscopy of one-dimensional trapped Bose polarons: crossover from the adiabatic to the diabatic regime. New Journal of Physics, 2021, 23, 043051.	2.9	11
5	A precise photometric ratio via laser excitation of the sodium layer II. Two-photon excitation using lasers detuned from 589.16 and 819.71Ånm resonances. Monthly Notices of the Royal Astronomical Society, 2021, 508, 4412-4428.	4.4	4
6	A precise photometric ratio via laser excitation of the sodium layer I. One-photon excitation using 342.78Ånm light. Monthly Notices of the Royal Astronomical Society, 2021, 508, 4399-4411.	4.4	4
7	Ultralong-Range Rydberg Bimolecules. Physical Review Letters, 2021, 126, 043401.	7.8	6
8	Formation and quench of homonuclear and heteronuclear quantum droplets in one dimension. Physical Review Research, 2021, 3, .	3.6	19
9	Rydberg spectrum of a single trapped ion: A Floquet analysis. Physical Review A, 2020, 101, .		
10	Non-Maxwellian rate coefficients for electron and ion collisions in Rydberg plasmas: implications for excitation and ionization. Journal of Plasma Physics, 2020, 86, .	2.1	2
11	Formation of argon cluster with proton seeding. Molecular Physics, 2020, 118, e1767813.	1.7	3
12	A protocol to realize triatomic ultralong range Rydberg molecules in an ultracold KRb gas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 074002.	1.5	2
13	An ultracold heavy Rydberg system formed from ultra-long-range molecules bound in a stairwell potential. New Journal of Physics, 2020, 22, 063060.	2.9	9
14	Rydberg impurity in a Fermi gas: Quantum statistics and rotational blockade. Physical Review Research, 2020, 2, .	3.6	21
15	Probing nonlocal spatial correlations in quantum gases with ultra-long-range Rydberg molecules. Physical Review A, 2019, 100, .	2.5	23
16	Efficient variational approach to dynamics of a spatially extended bosonic Kondo model. Physical Review A, 2019, 100, .	2.5	8
17	Quantum Rydberg Central Spin Model. Physical Review Letters, 2019, 123, 183001.	7.8	25
18	Efficient Computation of Collisional $\alpha$ -mixing Rate Coefficients in Astrophysical Plasmas. Astrophysical Journal, 2019, 879, 115.	4.5	1

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19	Crystallographic orientation dependence of work function: carbon adsorption on Au surfaces. <i>Molecular Physics</i> , 2019, 117, 2157-2161.	1.7	7
20	Theory and simulation of spectral line broadening by exoplanetary atmospheric haze. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019, 482, 1330-1337.	4.4	1
21	Theory of excitation of Rydberg polarons in an atomic quantum gas. <i>Physical Review A</i> , 2018, 97, .	2.5	38
22	Creation of Rydberg Polarons in a Bose Gas. <i>Physical Review Letters</i> , 2018, 120, 083401.	7.8	113
23	Electric Noise Spectra of a Near-Surface Nitrogen-Vacancy Center in Diamond with a Protective Layer. <i>Physical Review Applied</i> , 2018, 10, .	3.8	12
24	Effective spin-spin interactions in bilayers of Rydberg atoms and polar molecules. <i>Physical Review A</i> , 2018, 98, .	2.5	7
25	Ultracold Rydberg molecules. <i>Nature Communications</i> , 2018, 9, 1965.	12.8	66
26	On the treatment of $\hat{\alpha}$ -changing proton-hydrogen Rydberg atom collisions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 471, 3051-3056.	4.4	4
27	Electric-field noise from carbon-atom diffusion on a Au(110) surface: First-principles calculations and experiments. <i>Physical Review A</i> , 2017, 95, .	2.5	20
28	Special issue on the atomic and molecular processes in the ultracold regime, the chemical regime and astrophysics. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 140202.	1.5	0
29	Electronic structure of ultralong-range Rydberg penta-atomic molecules with two polar diatomic molecules. <i>Physical Review A</i> , 2017, 96, .	2.5	4
30	A model for charge transfer in ultracold Rydberg ground-state atomic collisions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 114006.	1.5	8
31	Theory of Ultralong-Range Rydberg Molecule Formation Incorporating Spin-Dependent Relativistic Effects: Cs(6s)-Cs(np) as Case Study. <i>ChemPhysChem</i> , 2016, 17, 3683-3691.	2.1	27
32	Lifetimes of ultra-long-range strontium Rydberg molecules. <i>Physical Review A</i> , 2016, 93, .	2.5	34
33	Electric Field Cancellation on Quartz by Rb Adsorbate-Induced Negative Electron Affinity. <i>Physical Review Letters</i> , 2016, 116, 133201.	7.8	38
34	Mesoscopic Rydberg Impurity in an Atomic Quantum Gas. <i>Physical Review Letters</i> , 2016, 116, 105302.	7.8	90
35	Rydberg-atom-mediated nondestructive readout of collective rotational states in polar-molecule arrays. <i>Physical Review A</i> , 2016, 94, .	2.5	19
36	Simulating the formation of carbon-rich molecules on an idealized graphitic surface. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 455, 2889-2900.	4.4	2

#	ARTICLE	IF	CITATIONS
37	Transport of quantum excitations via local and nonlocal fluctuations. <i>Physical Review A</i> , 2015, 91, .	2.5	2
38	Correlated Diskoid-like Electronic States. <i>Scientific Reports</i> , 2015, 4, 5913.	3.3	1
39	Hyperfine-changing transitions in $^3\text{He II}$ and other one-electron ions by electron scattering. <i>Journal of Physics: Conference Series</i> , 2015, 635, 052016.	0.4	0
40	Rotational hybridization, and control of alignment and orientation in triatomic ultralong-range Rydberg molecules. <i>New Journal of Physics</i> , 2015, 17, 013021.	2.9	16
41	Production of trilobite Rydberg molecule dimers with kilo-Debye permanent electric dipole moments. <i>Science</i> , 2015, 348, 99-102.	12.6	116
42	A comparative analysis of binding in ultralong-range Rydberg molecules. <i>New Journal of Physics</i> , 2015, 17, 055010.	2.9	26
43	HYPERFINE-CHANGING TRANSITIONS IN $^3\text{He II}$ AND OTHER ONE-ELECTRON IONS BY ELECTRON SCATTERING. <i>Astrophysical Journal</i> , 2014, 788, 69.	4.5	2
44	Approach to form long-range ion-pair molecules in an ultracold Rb gas. <i>Physical Review A</i> , 2013, 87, .	2.5	16
45	Quantum Synchronization of Quantum van der Pol Oscillators with Trapped Ions. <i>Physical Review Letters</i> , 2013, 111, 234101.	7.8	206
46	How do ultralong-range homonuclear Rydberg molecules get their permanent dipole moments?. <i>Molecular Physics</i> , 2013, 111, 1902-1907.	1.7	9
47	Influence of monolayer contamination on electric-field-noise heating in ion traps. <i>Physical Review A</i> , 2013, 87, .	2.5	27
48	Nonuniversal bound states of two identical heavy fermions and one light particle. <i>Physical Review A</i> , 2013, 87, .	2.5	13
49	Dynamics of Synthesis of Large Carbon Structures in the Interstellar Medium. <i>Proceedings of the International Astronomical Union</i> , 2013, 9, 353-355.	0.0	0
50	Observation of Blueshifted Ultralong-Range $^{\text{Cs}}\text{Rydberg}$ Molecules. <i>Physical Review Letters</i> , 2012, 109, 173202.	7.8	90
51	Electric field control in ultralong-range triatomic polar Rydberg molecules. <i>Physical Review A</i> , 2012, 85, .	2.5	19
52	ANGULAR MOMENTUM CHANGING TRANSITIONS IN PROTON-RYDBERG HYDROGEN ATOM COLLISIONS. <i>Astrophysical Journal</i> , 2012, 747, 56.	4.5	24
53	Rydberg atom mediated polar molecule interactions: a tool for molecular-state conditional quantum gates and individual addressability. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 17115.	2.8	21
54	A Homonuclear Molecule with a Permanent Electric Dipole Moment. <i>Science</i> , 2011, 334, 1110-1114.	12.6	129

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55	Microscopic model of electric-field-noise heating in ion traps. Physical Review A, 2011, 84, .	2.5	71
56	Spin depolarization and spin exchange in cold collisions involving $^3\text{He}$ : role of anisotropy. Journal of Modern Optics, 2010, 57, 1858-1862.	1.3	0
57	Ultracold Giant Polyatomic Rydberg Molecules: Coherent Control of Molecular Orientation. Physical Review Letters, 2010, 104, 243002.	7.8	45
58	Collisions of trapped molecules with slow beams. Physical Review A, 2010, 82, .	2.5	15
59	Collision-induced spin exchange of alkali-metal atoms with $^3\text{He}$ . <i>Ab initio study</i> . Physical Review A, 2009, 79, .	2.5	22
60	$^3\text{He}$ PHOTODETACHMENT IN ATOMIC PHYSICS AND ASTROPHYSICS. , 2009, , .		2
61	Formation of Antihydrogen Rydberg atoms in strong magnetic field traps. AIP Conference Proceedings, 2008, , .	0.4	1
62	Collision-induced spin depolarization of alkali-metal atoms in cold $^3\text{He}$ gas. Physical Review A, 2008, 78, .	2.5	15
63	Interpretation of the Fano lineshape reversal in quantum waveguides. Physical Review B, 2007, 75, .	3.2	15
64	Accurate long-range coefficients for two excited like isotope He atoms: $^3\text{He}$		

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73	Shape-resonance-induced long-range molecular Rydberg states. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, L199-L206.	1.5	127
74	Laser spinning of nanotubes: A path to fast-rotating microdevices. Physical Review B, 2002, 65, .	3.2	55
75	Channel interaction in alkali-halide photodissociation: Interferometric lineshapes and dynamic switching. International Journal of Quantum Chemistry, 2000, 80, 958-965.	2.0	2
76	Collisions near threshold in atomic and molecular physics. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, R93-R140.	1.5	216
77	Creation of Polar and Nonpolar Ultra-Long-Range Rydberg Molecules. Physical Review Letters, 2000, 85, 2458-2461.	7.8	360
78	Interferometric Line Shape Modulation in Alkali-Halide Photoabsorption. Physical Review Letters, 1999, 82, 2488-2491.	7.8	23
79	Resonant Raman scattering in O <sub>2</sub> . Journal of Chemical Physics, 1997, 107, 7057-7066.	3.0	4
80	Charge transfer in collision of N <sup>2+</sup> and He. International Reviews in Physical Chemistry, 1996, 15, 53-64.	2.3	13
81	Dispersion coefficients for alkali-metal dimers. Physical Review A, 1994, 49, 982-988.	2.5	326