

# Hossein R Sadeghpour

## List of Publications by Year in descending order

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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	Creation of Polar and Nonpolar Ultra-Long-Range Rydberg Molecules. Physical Review Letters, 2000, 85, 2458-2461.	7.8	360
2	Dispersion coefficients for alkali-metal dimers. Physical Review A, 1994, 49, 982-988.	2.5	326
3	Collisions near threshold in atomic and molecular physics. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, R93-R140.	1.5	216
4	Quantum Synchronization of Quantum van der Pol Oscillators with Trapped Ions. Physical Review Letters, 2013, 111, 234101.	7.8	206
5	A Homonuclear Molecule with a Permanent Electric Dipole Moment. Science, 2011, 334, 1110-1114.	12.6	129
6	Shape-resonance-induced long-range molecular Rydberg states. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, L199-L206.	1.5	127
7	Production of trilobite Rydberg molecule dimers with kilo-Debye permanent electric dipole moments. Science, 2015, 348, 99-102.	12.6	116
8	Creation of Rydberg Polarons in a Bose Gas. Physical Review Letters, 2018, 120, 083401.	7.8	113
9	Observation of Blueshifted Ultralong-Range $Cs_2$ Rydberg Molecules. Physical Review Letters, 2012, 109, 173202.	7.8	90
10	Mesoscopic Rydberg Impurity in an Atomic Quantum Gas. Physical Review Letters, 2016, 116, 105302.	7.8	90
11	Microscopic model of electric-field-noise heating in ion traps. Physical Review A, 2011, 84, .	2.5	71
12	Low-temperature collisions of $NH(X^3\tilde{\Lambda}^{\sim})$ molecules with He atoms in a magnetic field: An ab initio study. Physical Review A, 2003, 68, .	2.5	67
13	Ultracold Rydberg molecules. Nature Communications, 2018, 9, 1965.	12.8	66
14	Laser spinning of nanotubes: A path to fast-rotating microdevices. Physical Review B, 2002, 65, .	3.2	55
15	Ultracold Giant Polyatomic Rydberg Molecules: Coherent Control of Molecular Orientation. Physical Review Letters, 2010, 104, 243002.	7.8	45
16	Electric Field Cancellation on Quartz by Rb Adsorbate-Induced Negative Electron Affinity. Physical Review Letters, 2016, 116, 133201.	7.8	38
17	Theory of excitation of Rydberg polarons in an atomic quantum gas. Physical Review A, 2018, 97, .	2.5	38
18	Lifetimes of ultra-long-range strontium Rydberg molecules. Physical Review A, 2016, 93, .	2.5	34

#	ARTICLE	IF	CITATIONS
19	Long-range interactions for $He(nS) \leftrightarrow He(n^2S)$ and $He(nS) \leftrightarrow He(n^2P)$ . <i>Physical Review A</i> , 2006, 74, .	2.5	32
20	Pressure broadening and shift of $He(23P_{0,1,2}) \leftrightarrow He(23S)$ lines. <i>Physical Review A</i> , 2004, 69, .	2.5	31
21	Influence of monolayer contamination on electric-field-noise heating in ion traps. <i>Physical Review A</i> , 2013, 87, .	2.5	27
22	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
23	A comparative analysis of binding in ultralong-range Rydberg molecules. <i>New Journal of Physics</i> , 2015, 17, 055010.	2.9	26
24	Quantum Rydberg Central Spin Model. <i>Physical Review Letters</i> , 2019, 123, 183001.	7.8	25
25	ANGULAR MOMENTUM CHANGING TRANSITIONS IN PROTON-RYDBERG HYDROGEN ATOM COLLISIONS. <i>Astrophysical Journal</i> , 2012, 747, 56.	4.5	24
26	Interferometric Line Shape Modulation in Alkali-Halide Photoabsorption. <i>Physical Review Letters</i> , 1999, 82, 2488-2491.	7.8	23
27	Probing nonlocal spatial correlations in quantum gases with ultra-long-range Rydberg molecules. <i>Physical Review A</i> , 2019, 100, .	2.5	23
28	Collision-induced spin exchange of alkali-metal atoms with $H$ .	2.5	22
29	An <i>ab initio</i> study. <i>Physical Review A</i> , 2009, 79, .	2.5	21
29	Long-range interactions between a $He(2S3)$ atom and a $He(2P3)$ atom for like isotopes. <i>Physical Review A</i> , 2006, 73, .	2.5	21
30	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
31	Rydberg impurity in a Fermi gas: Quantum statistics and rotational blockade. <i>Physical Review Research</i> , 2020, 2, .	3.6	21
32	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
33	Electric field control in ultralong-range triatomic polar Rydberg molecules. <i>Physical Review A</i> , 2012, 85, .	2.5	19
34	Rydberg-atom-mediated nondestructive readout of collective rotational states in polar-molecule arrays. <i>Physical Review A</i> , 2016, 94, .	2.5	19
35	Formation and quench of homonuclear and heteronuclear quantum droplets in one dimension. <i>Physical Review Research</i> , 2021, 3, .	3.6	19
36	Control of polarized iodine atom branching ratio in NaI photodissociation. <i>Physical Review A</i> , 2005, 71, .	2.5	18

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37	Approach to form long-range ion-pair molecules in an ultracold Rb gas. <i>Physical Review A</i> , 2013, 87, .	2.5	16
38	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
39	Interpretation of the Fano lineshape reversal in quantum waveguides. <i>Physical Review B</i> , 2007, 75, .	3.2	15
40	Collision-induced spin depolarization of alkali-metal atoms in cold $^3\text{He}$ gas. <i>Physical Review A</i> , 2008, 78, .	2.5	15
41	Collisions of trapped molecules with slow beams. <i>Physical Review A</i> , 2010, 82, .	2.5	15
42	Charge transfer in collision of $\text{N}^{2+}$ and He. <i>International Reviews in Physical Chemistry</i> , 1996, 15, 53-64.	2.3	13
43	Nonuniversal bound states of two identical heavy fermions and one light particle. <i>Physical Review A</i> , 2013, 87, .	2.5	13
44	Energy dispersion in graphene and carbon nanotubes and molecular encapsulation in nanotubes. <i>Physical Review B</i> , 2007, 75, .	3.2	12
45	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
46	Radiofrequency spectroscopy of one-dimensional trapped Bose polarons: crossover from the adiabatic to the diabatic regime. <i>New Journal of Physics</i> , 2021, 23, 043051.	2.9	11
47	Anisotropic van der Waals coefficients for $^4\text{He}(1S1) \leftrightarrow ^4\text{He}(2P3)$ . <i>Physical Review A</i> , 2005, 71, .	2.5	9
48	Accurate long-range coefficients for two excited like isotope He atoms: $^4\text{He}(1S1) \leftrightarrow ^4\text{He}(2P3)$ .		

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55	Rydberg spectrum of a single trapped $\text{Ca}^+$ ion: A Floquet analysis. <i>Physical Review A</i> , 2020, 101, .	7.8	6
56	Ultralong-Range Rydberg Bimolecules. <i>Physical Review Letters</i> , 2021, 126, 043401.	7.8	6
57	Resonant Raman scattering in O <sub>2</sub> . <i>Journal of Chemical Physics</i> , 1997, 107, 7057-7066.	3.0	4
58	On the treatment of $\text{H}^+$ -changing proton-hydrogen Rydberg atom collisions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 471, 3051-3056.	4.4	4
59	Electronic structure of ultralong-range Rydberg penta-atomic molecules with two polar diatomic molecules. <i>Physical Review A</i> , 2017, 96, .	2.5	4
60	A precise photometric ratio via laser excitation of the sodium layer $\text{H}^+$ II. Two-photon excitation using lasers detuned from 589.16 and 819.71Ånm resonances. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 508, 4412-4428.	4.4	4
61	A precise photometric ratio via laser excitation of the sodium layer $\text{H}^+$ I. One-photon excitation using 342.78Ånm light. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 508, 4399-4411.	4.4	4
62	Formation of argon cluster with proton seeding. <i>Molecular Physics</i> , 2020, 118, e1767813.	1.7	3
63	Channel interaction in alkali-halide photodissociation: Interferometric lineshapes and dynamic switching. <i>International Journal of Quantum Chemistry</i> , 2000, 80, 958-965.	2.0	2
64	HYPERFINE-CHANGING TRANSITIONS IN $\text{He}^+$ II AND OTHER ONE-ELECTRON IONS BY ELECTRON SCATTERING. <i>Astrophysical Journal</i> , 2014, 788, 69.	4.5	2
65	Transport of quantum excitations via local and nonlocal fluctuations. <i>Physical Review A</i> , 2015, 91, .	2.5	2
66	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
67	Non-Maxwellian rate coefficients for electron and ion collisions in Rydberg plasmas: implications for excitation and ionization. <i>Journal of Plasma Physics</i> , 2020, 86, .	2.1	2
68	A protocol to realize triatomic ultralong range Rydberg molecules in an ultracold KRb gas. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2020, 53, 074002.	1.5	2
69	$\text{H}^+$ PHOTODETACHMENT IN ATOMIC PHYSICS AND ASTROPHYSICS. , 2009, , .		2
70	Correlated many-body noise and emergent $\text{H}^+$ behavior. <i>Physical Review A</i> , 2022, 105, .		
71	Formation of Antihydrogen Rydberg atoms in strong magnetic field traps. <i>AIP Conference Proceedings</i> , 2008, , .	0.4	1
72	Correlated Diskoid-like Electronic States. <i>Scientific Reports</i> , 2015, 4, 5913.	3.3	1

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73	Efficient Computation of Collisional $\alpha$ -mixing Rate Coefficients in Astrophysical Plasmas. <i>Astrophysical Journal</i> , 2019, 879, 115.	4.5	1
74	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
75	Kinetics and nucleation dynamics in ion-seeded atomic clusters. <i>Physical Review A</i> , 2022, 105, .	2.5	1
76	From atomic physics, to upper-atmospheric chemistry, to cosmology: A laser photometric ratio star to calibrate telescopes at major observatories. <i>Natural Sciences</i> , 2022, 2, .	2.1	1
77	Bands of Image States in Nanowire Lattices and Infrared-Control of Proteins on Nanotube Ropes. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2005, 13, 267-274.	2.1	0
78	Spin depolarization and spin exchange in cold collisions involving $^3\text{He}$ : role of anisotropy. <i>Journal of Modern Optics</i> , 2010, 57, 1858-1862.	1.3	0
79	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
80	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
81	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