

Clifford Surko

List of Publications by Year in descending order

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91
papers

4,487
citations

109137

35
h-index

102304

66
g-index

93
all docs

93
docs citations

93
times ranked

1207
citing authors

#	ARTICLE	IF	CITATIONS
1	Positron Plasma in the Laboratory. <i>Physical Review Letters</i> , 1989, 62, 901-904.	2.9	317
2	Low-energy positron interactions with atoms and molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, R57-R126.	0.6	251
3	Creation and uses of positron plasmas*. <i>Physics of Plasmas</i> , 1994, 1, 1439-1446.	0.7	239
4	Positron-molecule interactions: Resonant attachment, annihilation, and bound states. <i>Reviews of Modern Physics</i> , 2010, 82, 2557-2607.	16.4	215
5	Use of the positron as a plasma particle. <i>Physics of Fluids B</i> , 1990, 2, 1372-1375.	1.7	209
6	Plasma and trap-based techniques for science with positrons. <i>Reviews of Modern Physics</i> , 2015, 87, 247-306.	16.4	192
7	Positron trapping in an electrostatic well by inelastic collisions with nitrogen molecules. <i>Physical Review A</i> , 1992, 46, 5696-5705.	1.0	187
8	Low-order modes as diagnostics of spheroidal non-neutral plasmas. <i>Physical Review Letters</i> , 1994, 72, 352-355.	2.9	182
9	Emerging science and technology of antimatter plasmas and trap-based beams. <i>Physics of Plasmas</i> , 2004, 11, 2333-2348.	0.7	170
10	Inward Transport and Compression of a Positron Plasma by a Rotating Electric Field. <i>Physical Review Letters</i> , 2000, 85, 1883-1886.	2.9	146
11	Creation of a monoenergetic pulsed positron beam. <i>Applied Physics Letters</i> , 1997, 70, 1944-1946.	1.5	120
12	Measurements of positron-annihilation rates on molecules. <i>Physical Review A</i> , 1995, 51, 473-487.	1.0	117
13	Antimatter plasmas and antihydrogen. <i>Physics of Plasmas</i> , 1997, 4, 1528-1543.	0.7	114
14	Vibrational-Resonance Enhancement of Positron Annihilation in Molecules. <i>Physical Review Letters</i> , 2002, 88, 043201.	2.9	110
15	$\hat{\gamma}$ -ray spectra from positron annihilation on atoms and molecules. <i>Physical Review A</i> , 1997, 55, 3586-3604.	1.0	108
16	Bound states of positrons and large molecules. <i>Physical Review Letters</i> , 1988, 61, 1831-1834.	2.9	101
17	Competing and coexisting dynamical states of travelling-wave convection in an annulus. <i>Journal of Fluid Mechanics</i> , 1990, 217, 441-467.	1.4	89
18	Energy-resolved positron annihilation for molecules. <i>Physical Review A</i> , 2003, 67, .	1.0	86

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19	Plans for the creation and studies of electron-positron plasmas in a stellarator. <i>New Journal of Physics</i> , 2012, 14, 035010.	1.2	82
20	Dipole Enhancement of Positron Binding to Molecules. <i>Physical Review Letters</i> , 2010, 104, 233201.	2.9	77
21	Dependence of positron-molecule binding energies on molecular properties. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009, 42, 235203.	0.6	71
22	Positron annihilation on large molecules. <i>Physical Review A</i> , 2000, 61, .	1.0	62
23	Torque-Balanced High-Density Steady States of Single-Component Plasmas. <i>Physical Review Letters</i> , 2005, 94, 035001.	2.9	53
24	Solid neon moderator for positron-trapping experiments. <i>Canadian Journal of Physics</i> , 1996, 74, 445-448.	0.4	52
25	Plasma manipulation techniques for positron storage in a multicell trap. <i>Physics of Plasmas</i> , 2006, 13, 123502.	0.7	49
26	Feshbach-resonance-mediated positron annihilation in small molecules. <i>Physical Review A</i> , 2008, 78, .	1.0	49
27	Feshbach-resonance-mediated annihilation in positron interactions with large molecules. <i>Physical Review A</i> , 2008, 77, .	1.0	48
28	Energy-resolved positron annihilation rates for molecules. <i>Physical Review A</i> , 2006, 74, .	1.0	46
29	Comparisons of Positron and Electron Binding to Molecules. <i>Physical Review Letters</i> , 2012, 109, 113201.	2.9	44
30	Radial compression and torque-balanced steady states of single-component plasmas in Penning-Malmberg traps. <i>Physics of Plasmas</i> , 2006, 13, 055706.	0.7	41
31	Radial compression and inward transport of positron plasmas using a rotating electric field. <i>Physics of Plasmas</i> , 2001, 8, 1879-1885.	0.7	39
32	Low-order longitudinal modes of single-component plasmas. <i>Physics of Plasmas</i> , 1995, 2, 2880-2894.	0.7	38
33	Plasma and trap-based techniques for science with antimatter. <i>Physics of Plasmas</i> , 2020, 27, 030601.	0.7	38
34	Ion production by positron-molecule resonances. <i>Physical Review A</i> , 1989, 39, 3706-3709.	1.0	37
35	Positron Annihilation with Inner-Shell Electrons in Noble Gas Atoms. <i>Physical Review Letters</i> , 1997, 79, 39-42.	2.9	36
36	Interplay between permanent dipole moments and polarizability in positron-molecule binding. <i>Physical Review A</i> , 2012, 85, .	1.0	36

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37	Positron binding to alcohol molecules. <i>New Journal of Physics</i> , 2012, 14, 015006.	1.2	35
38	Positron cooling by vibrational and rotational excitation of molecular gases. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 225209.	0.6	35
39	High-Density Fixed Point for Radially Compressed Single-Component Plasmas. <i>Physical Review Letters</i> , 2007, 99, 135005.	2.9	33
40	A new frontier in laboratory physics: magnetized electron-positron plasmas. <i>Journal of Plasma Physics</i> , 2020, 86, .	0.7	31
41	An electron-positron beam-plasma instability. <i>Physics of Plasmas</i> , 2001, 8, 4982-4994.	0.7	27
42	A cryogenically cooled, ultra-high-energy-resolution, trap-based positron beam. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	26
43	Measuring positron-atom binding energies through laser-assisted photorecombination. <i>New Journal of Physics</i> , 2012, 14, 065004.	1.2	24
44	Spatio-temporal dynamics of oscillatory heterogeneous catalysis: CO oxidation on platinum. <i>Journal of Chemical Physics</i> , 1995, 102, 8614-8625.	1.2	22
45	Effect of positron-atom interactions on the annihilation gamma spectra of molecules. <i>New Journal of Physics</i> , 2012, 14, 035021.	1.2	21
46	Evolution of a Vortex in a Strain Flow. <i>Physical Review Letters</i> , 2016, 117, 235001.	2.9	19
47	Extraction of small-diameter beams from single-component plasmas. <i>Applied Physics Letters</i> , 2007, 90, 081503.	1.5	18
48	Positron attachment to molecules. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 2265-2271.	0.8	18
49	Formation of buffer-gas-trap based positron beams. <i>Physics of Plasmas</i> , 2015, 22, 033501.	0.7	18
50	Vibrational Feshbach Resonances Mediated by Nondipole Positron-Molecule Interactions. <i>Physical Review Letters</i> , 2017, 119, 113402.	2.9	18
51	Positron annihilation in a simulated interstellar medium. <i>Canadian Journal of Physics</i> , 1996, 74, 407-410.	0.4	17
52	Role of Binding Energy in Feshbach-Resonant Positron-Molecule Annihilation. <i>Physical Review Letters</i> , 2007, 99, 133201.	2.9	17
53	Role of Vibrational Dynamics in Resonant Positron Annihilation on Molecules. <i>Physical Review Letters</i> , 2013, 110, 223201.	2.9	17
54	Role of combination vibrations in resonant positron annihilation. <i>Physical Review A</i> , 2008, 77, .	1.0	15

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55	Electrostatic beams from tailored plasmas in a Penning-Malmberg trap. <i>Physics of Plasmas</i> , 2010, 17, 123507.	0.7	14
56	Chemical structural effects on $\hat{\gamma}$ -ray spectra of positron annihilation in fluorobenzenes. <i>European Physical Journal D</i> , 2012, 66, 1.	0.6	14
57	Ubiquitous Nature of Multimode Vibrational Resonances in Positron-Molecule Annihilation. <i>Physical Review Letters</i> , 2012, 108, 093201.	2.9	13
58	Mode coupling and multiquantum vibrational excitations in Feshbach-resonant positron annihilation in molecules. <i>Physical Review A</i> , 2017, 96, .	1.0	13
59	Spatial coupling in heterogeneous catalysis. <i>Journal of Chemical Physics</i> , 1995, 103, 8209-8215.	1.2	12
60	Creation of finely focused particle beams from single-component plasmas. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	12
61	Modeling enhancement and suppression of vibrational Feshbach resonances in positron annihilation on molecules. <i>Physical Review A</i> , 2013, 88, .	1.0	12
62	Modes of spheroidal ion plasmas at the Brillouin limit. <i>Physics of Plasmas</i> , 1996, 3, 749-758.	0.7	11
63	Electron Plasma Orbits from Competing Diocotron Drifts. <i>Physical Review Letters</i> , 2014, 113, 025004.	2.9	9
64	Formation mechanisms and optimization of trap-based positron beams. <i>Physics of Plasmas</i> , 2016, 23, 023505.	0.7	9
65	Energy distribution and adiabatic guiding of a solid-neon-moderated positron beam. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 0, , .	0.6	9
66	Pinning and long-time-scale behavior in traveling-wave convection. <i>Journal of Statistical Physics</i> , 1991, 64, 903-912.	0.5	8
67	Confinement and manipulation of electron plasmas in a multicell trap. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	8
68	Effect of chlorination on positron binding to hydrocarbons: Experiment and theory. <i>Physical Review A</i> , 2021, 104, .	1.0	8
69	Progress in creating low-energy positron plasmas and beams. <i>AIP Conference Proceedings</i> , 1999, , .	0.3	7
70	Energy spectra of tailored particle beams from trapped single-component plasmas. <i>Physics of Plasmas</i> , 2009, 16, 057105.	0.7	6
71	Enhanced Resonant Positron Annihilation due to Nonfundamental Modes in Molecules. <i>Physical Review Letters</i> , 2020, 125, 173401.	2.9	6
72	Adiabatic behavior of an elliptical vortex in a time-dependent external strain flow. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	6

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73	Effects of local reactant concentration perturbations in oscillatory catalysis. <i>Journal of Chemical Physics</i> , 1998, 108, 5565-5570.	1.2	5
74	New Plasma Tools for Antimatter Science. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	5
75	Progress towards a practical multicell positron trap. <i>AIP Conference Proceedings</i> , 2013, , .	0.3	5
76	Experimental study of the stability and dynamics of a two-dimensional ideal vortex under external strain. <i>Journal of Fluid Mechanics</i> , 2018, 848, 256-287.	1.4	5
77	Publisher's Note: Interplay between permanent dipole moments and polarizability in positron-molecule binding [<i>Phys. Rev. A</i> 85 (2012), 022709 (2012)]. <i>Physical Review A</i> , 2012, 85, .	1.0	4
78	An electron plasma experiment to study vortex dynamics subject to externally imposed flows. <i>AIP Conference Proceedings</i> , 2018, , .	0.3	4
79	Instability of an electron-plasma shear layer in an externally imposed strain flow. <i>Physics of Plasmas</i> , 2020, 27, 042101.	0.7	4
80	Influence of geometry on positron binding to molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021, 54, 225201.	0.6	4
81	Finite-length, large-amplitude diocotron mode dynamics. <i>AIP Conference Proceedings</i> , 2015, , .	0.3	3
82	Annihilation rates of positrons on aromatic molecules. <i>Hyperfine Interactions</i> , 1994, 89, 271-278.	0.2	2
83	Recent progress in tailoring trap-based positron beams. , 2013, , .		2
84	Experiments with trapped positron plasmas. <i>AIP Conference Proceedings</i> , 1995, , .	0.3	1
85	Low-energy positron-matter interactions using trap-based beams. <i>AIP Conference Proceedings</i> , 2002, , .	0.3	1
86	Tailored Particle Beams From Single-Component Plasmas. , 2009, , .		1
87	Inviscid damping of an elliptical vortex subject to an external strain flow. <i>Physics of Plasmas</i> , 2022, 29, .	0.7	1
88	Modes of spheroidal ion plasmas at the Brillouin limit. <i>AIP Conference Proceedings</i> , 1995, , .	0.3	0
89	Competition of Hexagons and Traveling Rolls in Binary Fluid Convection. <i>AIP Conference Proceedings</i> , 2003, , .	0.3	0
90	Plasma Compression using Rotating Electric Fields in the Strong Drive Regime. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	0

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91	Next Generation Trap for Positron Storage. , 2009, , .		0