Geza Zsigmond

List of Publications by Year in descending order

100 papers	2,227 citations	236925 25 h-index	243625 44 g-index
101 all docs	101 docs citations	101 times ranked	1454 citing authors

#	Article	IF	Citations
1	A Search for Neutron to Mirror Neutron Oscillation Using Neutron Electric Dipole Moment Measurements. Symmetry, 2022, 14, 487.	2.2	5
2	Improved Search for Neutron to Mirror-Neutron Oscillations in the Presence of Mirror Magnetic Fields with a Dedicated Apparatus at the PSI UCN Source. Symmetry, 2022, 14, 503.	2.2	13
3	Ultracold neutron storage and transport at the PSI UCN source. European Physical Journal A, 2022, 58, .	2.5	5
4	Data blinding for the nEDM experiment at PSI. European Physical Journal A, 2021, 57, 152.	2.5	1
5	The design of the n2EDM experiment. European Physical Journal C, 2021, 81, 512.	3.9	27
6	Johnson-Nyquist noise effects in neutron electric-dipole-moment experiments. Physical Review A, 2021, 103, .	2.5	2
7	Indirect searches for dark matter with the nEDM spectrometer. SciPost Physics Proceedings, 2021, , .	0.4	2
8	A search for neutron to mirror-neutron oscillations using the nEDM apparatus at PSI. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 812, 135993.	4.1	29
9	Optically pumped Cs magnetometers enabling a high-sensitivity search for the neutron electric dipole moment. Physical Review A, 2020, 101, .	2.5	19
10	Neutron optics of the PSI ultracold-neutron source: characterization and simulation. European Physical Journal A, 2020, 56, 1.	2.5	17
11	Measurement of the Permanent Electric Dipole Moment of the Neutron. Physical Review Letters, 2020, 124, 081803.	7.8	263
12	The ultracold neutron source at the Paul Scherrer Institute â€“ Performance and status. Journal of Neutron Research, 2019, 20, 83-86.	1.1	1
13	Magnetic-field uniformity in neutron electric-dipole-moment experiments. Physical Review A, 2019, 99, .	2.5	24
14	The n2EDM experiment at the Paul Scherrer Institute. EPJ Web of Conferences, 2019, 219, 02002.	0.3	17
15	nEDM experiment at PSI: Data-taking strategy and sensitivity of the dataset. EPJ Web of Conferences, 2019, 219, 02001.	0.3	11
16	Statistical sensitivity of the nEDM apparatus at PSI to n â^' nâ€² oscillations. EPJ Web of Conferences, 2019, 219, 07001.	0.3	4
17	Oscillating ultra-cold neutron spectrometer. EPJ Web of Conferences, 2019, 219, 10007.	0.3	1
18	Demonstration of sensitivity increase in mercury free-spin-precession magnetometers due to laser-based readout for neutron electric dipole moment searches. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 896, 129-138.	1.6	12

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19	The MCUCN simulation code for ultracold neutron physics. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 881, 16-26.	1.6	15
20	Solid deuterium surface degradation at ultracold neutron sources. European Physical Journal A, 2018, 54, 1.	2.5	17
21	Losses and depolarization of ultracold neutrons on neutron guide and storage materials. Physical Review C, 2017, 96, .	2.9	15
22	Active compensation of magnetic field distortions based on vector spherical harmonics field description. AIP Advances, 2017, 7, .	1.3	6
23	Search for Axionlike Dark Matter through Nuclear Spin Precession in Electric and Magnetic Fields. Physical Review X, 2017, 7, .	8.9	129
24	Comparison of ultracold neutron sources for fundamental physics measurements. Physical Review C, 2017, 95, .	2.9	39
25	Ultracold neutron detection with 6Li-doped glass scintillators. European Physical Journal A, 2016, 52, 1.	2.5	19
26	An ultracold neutron storage bottle for UCN density measurements. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 830, 449-453.	1.6	7
27	A prestorage method to measure neutron transmission of ultracold neutron guides. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 807, 30-40.	1.6	13
28	Revised experimental upper limit on the electric dipole moment of the neutron. Physical Review D, 2015, 92, .	4.7	285
29	Observation of Gravitationally Induced Vertical Striation of Polarized Ultracold Neutrons by Spin-Echo Spectroscopy. Physical Review Letters, 2015, 115, 162502.	7.8	19
30	Gravitational depolarization of ultracold neutrons: Comparison with data. Physical Review D, 2015, 92, .	4.7	18
31	Measurement of a false electric dipole moment signal from 199Hg atoms exposed to an inhomogeneous magnetic field. European Physical Journal D, 2015, 69, 1.	1.3	18
32	Neutron production and thermal moderation at the PSI UCN source. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 777, 20-27.	1.6	15
33	Constraining interactions mediated by axion-like particles with ultracold neutrons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 745, 58-63.	4.1	29
34	Highly stable atomic vector magnetometer based on free spin precession. Optics Express, 2015, 23, 22108.	3.4	34
35	A device for simultaneous spin analysis of ultracold neutrons. European Physical Journal A, 2015, 51, 1.	2.5	26
36	A measurement of the neutron to 199 Hg magnetic moment ratio. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 739, 128-132.	4.1	30

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37	Dynamic stabilization of the magnetic field surrounding the neutron electric dipole moment spectrometer at the Paul Scherrer Institute. Journal of Applied Physics, 2014, 116, .	2.5	48
38	Transmission of ultra-cold neutrons through guides coated with materials of high optical potential. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 741, 71-77.	1.6	10
39	Experimental study of 199Hg spin anti-relaxation coatings. Applied Physics B: Lasers and Optics, 2014, 115, 257-262.	2.2	3
40	Copper coated carbon fiber reinforced plastics for high and ultra high vacuum applications. Vacuum, 2014, 101, 212-216.	3.5	6
41	An endoscopic detector for ultracold neutrons. European Physical Journal A, 2013, 49, 1.	2.5	4
42	A low-pass velocity filter for ultracold neutrons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 675, 103-111.	1.6	4
43	Production of ultracold neutrons from cryogenic 2 H 2 , O 2 , and C 2 H 4 converters. Europhysics Letters, 2011, 95, 12001.	2.0	10
44	The search for the neutron electric dipole moment at the Paul Scherrer Institute. Physics Procedia, 2011, 17, 159-167.	1.2	56
45	MC calculations for the nEDM experiment systematics. Physics Procedia, 2011, 17, 259-267.	1.2	7
46	First observation of trapped high-field seeking ultracold neutron spin states. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 704, 456-460.	4.1	5
47	Testing isotropy of the universe using the Ramsey resonance technique on ultracold neutron spins. Physica B: Condensed Matter, 2011, 406, 2365-2369.	2.7	3
48	New constraints on Lorentz invariance violation from the neutron electric dipole moment. Europhysics Letters, 2010, 92, 51001.	2.0	24
49	Diffuse reflection of ultracold neutrons from low-roughness surfaces. European Physical Journal A, 2010, 44, 23-29.	2.5	14
50	An efficient gravitational spectrometer for ultracold neutrons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 624, 168-172.	1.6	1
51	An improved measurement of the electric dipole moment of the neutron. Nuclear Physics A, 2010, 844, 47c-52c.	1.5	8
52	High Intensity Monochromatic Pulsed Neutron Beams from UCN Up-scattering. Neutron News, 2010, 21, 26-29.	0.2	0
53	Ultracold Neutronsâ€"Physics and Production. Nuclear Physics News, 2010, 20, 17-23.	0.4	10
54	Test of Lorentz Invariance with Spin Precession of Ultracold Neutrons. Physical Review Letters, 2009, 103, 081602.	7.8	63

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55	Additional results from the first dedicated search for neutronâ€“mirror neutron oscillations. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 611, 141-143.	1.6	20
56	Investigation of solid , and for ultracold neutron production. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 611, 252-255.	1.6	14
57	The PSI ultra-cold neutron source. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 611, 272-275.	1.6	58
58	A compact, large-diameter adiabatic spinflipper for ultracold neutrons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, 132-138.	1.6	2
59	Transmission of very slow neutrons through material foils and its influence on the design of ultracold neutron sources. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, 144-151.	1.6	13
60	New aspects for high-intensity neutron beam production. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, 434-439.	1.6	11
61	Towards a new measurement of the neutron electric dipole moment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 611, 133-136.	1.6	30
62	Neutron to mirror-neutron oscillations in the presence of mirror magnetic fields. Physical Review D, 2009, 80, .	4.7	52
63	Storage of ultracold neutrons in high resistivity, non-magnetic materials with high Fermi potential. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 597, 222-226.	1.6	27
64	Monte-Carlo simulation of phase space transformation of ultra-cold neutrons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 586, 110-115.	1.6	2
65	Surface characterization of diamond-like carbon for ultracold neutron storage. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 587, 82-88.	1.6	9
66	Tailored instrumentation for long-pulse neutron spallation sources. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 589, 34-46.	1.6	29
67	Neutron velocity distribution from a superthermal solid 2H2 ultracold neutron source. European Physical Journal A, 2008, 37, 9.	2.5	24
68	Novel neutron guides. Journal of Neutron Research, 2008, 16, 75-80.	1.1	0
69	Virtual experiments: the ultimate aim of neutron ray-tracing simulations. Journal of Neutron Research, 2008, 16, 97-111.	1.1	24
70	Cold Neutron Energy Dependent Production of Ultracold Neutrons in Solid Deuterium. Physical Review Letters, 2007, 99, 262502.	7.8	30
71	Loss and spinflip probabilities for ultracold neutrons interacting with diamondlike carbon and beryllium surfaces. Physical Review C, 2007, 76, .	2.9	22
72	Direct Experimental Limit on Neutronâ€“Mirror-Neutron Oscillations. Physical Review Letters, 2007, 99, 161603.	7.8	74

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73	Measurement of the Fermi potential of diamond-like carbon and other materials. Nuclear Instruments & Methods in Physics Research B, 2007, 260, 647-656.	1.4	22
74	High-resolution roton spectra around the superfluid transition temperature in liquid 4He. Physica B: Condensed Matter, 2007, 388, 43-48.	2.7	15
75	Monte Carlo simulations for the development of polarized neutron instrumentation: An overview. Physica B: Condensed Matter, 2007, 397, 115-119.	2.7	5
76	Monte Carlo simulations for instrumentation at SINQ. Physica B: Condensed Matter, 2006, 385-386, 1346-1348.	2.7	1
77	Diamondlike carbon can replace beryllium in physics with ultracold neutrons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2006, 642, 24-27.	4.1	27
78	Using Fermi choppers to shape the neutron pulse. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 557, 580-584.	1.6	5
79	A numerical analysis of time focusing of crystal analyzer spectrometers on pulsed sources. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 550, 359-378.	1.6	3
80	Aspects of Neutron Spin-echo Spectrometer Operation on a Pulsed Source. Journal of Neutron Research, 2005, 13, 63-66.	1.1	1
81	Time-focused crystal analyzer spectrometer. Physical Chemistry Chemical Physics, 2005, 7, 1250.	2.8	0
82	Optimisation of guide exits by combining MC simulations and optimising routines. Physica B: Condensed Matter, 2004, 350, E687-E689.	2.7	3
83	Inelastic neutron scattering facilities at the Budapest Neutron Center. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 3182-3185.	0.8	1
84	A survey of simulations of complex neutronic systems by VITESS. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2004, 529, 218-222.	1.6	30
85	Benchmark simulation of a Fermi-chopper instrument. Physica B: Condensed Matter, 2004, 350, E717-E719.	2.7	2
86	The high-resolution neutron spin-echo spectrometer for the SNS with Ï„â©¾1Î¼s. Physica B: Condensed Matter, 2004, 350, 147-150.	2.7	26
87	<title>Neutron instrument simulation and optimization using the software package VITESS</title>. , 2004, , .		36
88	Monte Carlo simulation of polarising cavities. Physica B: Condensed Matter, 2003, 335, 266-269.	2.7	1
89	Simulations of a convergent bender as neutron polariser for NSE spectrometers. Physica B: Condensed Matter, 2003, 335, 270-273.	2.7	4
90	VITESS and other software packages discussed at meeting. Neutron News, 2002, 13, 8-8.	0.2	0

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91	Monte Carlo simulations of neutron scattering instruments by VITESS: Virtual instrumentation tool for ESS. Neutron News, 2002, 13, 11-14.	0.2	47
92	Monte Carlo simulation of a pulsed-source time-focused crystal analyzer spectrometer. , 2002, , .		2
93	Monte carlo code comparisons for a model instrument. Neutron News, 2002, 13, 24-29.	0.2	16
94	Analytical calculations and Monte-Carlo simulations of a high-resolution backscattering spectrometer for the long wavelength target station at the Spallation neutron source. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 491, 216-225.	1.6	4
95	Monte Carlo simulation of single-crystal spectroscopy and diffraction at spallation sources. Applied Physics A: Materials Science and Processing, 2002, 74, s224-s225.	2.3	4
96	Monte Carlo simulation of crystal monochromators/analysers â€“ Applications for the crystal-analyser neutron spectrometer IRIS. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 457, 299-308.	1.6	14
97	Simulation of the time-of-flight-backscattering neutron spectrometer IRIS The Monte Carlo data reduction technique. Physica B: Condensed Matter, 2000, 276-278, 106-107.	2.7	4
98	Monte-Carlo simulations for instrumentation at pulsed and continuous sources. Physica B: Condensed Matter, 2000, 276-278, 71-72.	2.7	9
99	VITESS: Virtual instrumentation tool for pulsed and continuous sources. Neutron News, 2000, 11, 25-28.	0.2	33
100	The role of reactive diffusion in the growth kinetics of the icosahedral quasicrystalline Al4Mn phase: case of sequentially deposited thin films. Thin Solid Films, 1995, 271, 26-34.	1.8	4