

Sebastian Rothe

List of Publications by Year in descending order

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113
papers

2,543
citations

186265

28
h-index

243625

44
g-index

115
all docs

115
docs citations

115
times ranked

1384
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of the shape-staggering effect in mercury nuclei. <i>Nature Physics</i> , 2018, 14, 1163-1167.	16.7	106
2	Ion beam production and study of radioactive isotopes with the laser ion source at ISOLDE. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2017, 44, 084006.	3.6	97
3	The electron capture in ^{163}Ho experiment "ECHO". <i>European Physical Journal: Special Topics</i> , 2017, 226, 1623-1694.	2.6	97
4	Towards high-resolution laser ionization spectroscopy of the heaviest elements in supersonic gas jet expansion. <i>Nature Communications</i> , 2017, 8, 14520.	12.8	90
5	Measurement of the first ionization potential of astatine by laser ionization spectroscopy. <i>Nature Communications</i> , 2013, 4, 1835.	12.8	89
6	Laser Spectroscopy of Niobium Fission Fragments: First Use of Optical Pumping in an Ion Beam Cooler Buncher. <i>Physical Review Letters</i> , 2009, 102, 222501.	7.8	88
7	Upgrade of the resonance ionization laser ion source at ISOLDE on-line isotope separation facility: New lasers and new ion beams. <i>Review of Scientific Instruments</i> , 2012, 83, 02A903.	1.3	83
8	Spectroscopy of short-lived radioactive molecules. <i>Nature</i> , 2020, 581, 396-400.	27.8	78
9	Measurement and microscopic description of odd-even staggering of charge radii of exotic copper isotopes. <i>Nature Physics</i> , 2020, 16, 620-624.	16.7	76
10	Collinear Resonance Ionization Spectroscopy of Neutron-Deficient Francium Isotopes. <i>Physical Review Letters</i> , 2013, 111, 212501.	7.8	63
11	A complementary laser system for ISOLDE RILIS. <i>Journal of Physics: Conference Series</i> , 2011, 312, 052020.	0.4	60
12	Use of a Continuous Wave Laser and Pockels Cell for Sensitive High-Resolution Collinear Resonance Ionization Spectroscopy. <i>Physical Review Letters</i> , 2015, 115, 132501.	7.8	54
13	Evolution of Octupole Deformation in Radioactive Nuclei from Coulomb Excitation of Radioactive $\langle R \rangle = \langle r^2 \rangle^{1/2}$	7.8	50
14	New developments of the in-source spectroscopy method at RILIS/ISOLDE. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013, 317, 550-556.	1.4	47
15	Shape staggering of midshell mercury isotopes from in-source laser spectroscopy compared with density-functional-theory and Monte Carlo shell-model calculations. <i>Physical Review C</i> , 2019, 99, .	2.9	43
16	The electron affinity of astatine. <i>Nature Communications</i> , 2020, 11, 3824.	12.8	42
17	Dipole and quadrupole moments of ^{73}Cu as a test of the robustness of the Z^2 model. $\langle Z^2 \rangle = \langle r^2 \rangle \langle Z^2 \rangle$	2.9	41
18	Laser spectroscopy of francium isotopes at the borders of the region of reflection asymmetry. <i>Physical Review C</i> , 2014, 90, .	2.9	39

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19	Evolution of fission-fragment mass distributions in the neutron-deficient lead region. <i>Physical Review C</i> , 2014, 90, .	2.9	39
20	Laser ion beam production at CERN-ISOLDE: New features â€œ More possibilities. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2016, 376, 91-96.	1.4	38
21	Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the $N=207$ and $N=208$ isotopes. <i>Physical Review C</i> , 2018, 97, .	2.9	37
22	The Collinear Resonance Ionization Spectroscopy (CRIS) experimental setup at CERN-ISOLDE. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013, 317, 565-569.	1.4	36
23	Charge radii and electromagnetic moments of ^{207}Pb and ^{208}Pb . <i>Physical Review C</i> , 2018, 97, .	2.9	35
24	Decay-Assisted Laser Spectroscopy of Neutron-Deficient Francium. <i>Physical Review X</i> , 2014, 4, .	8.9	34
25	GISELE: A resonant ionization laser ion source for the production of radioactive ions at GANIL. <i>Review of Scientific Instruments</i> , 2010, 81, 02A910.	1.3	33
26	Narrow linewidth operation of the RILIS titanium: Sapphire laser at ISOLDE/CERN. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013, 317, 561-564.	1.4	33
27	Resonance ionization spectroscopy of thorium isotopesâ€œtowards a laser spectroscopic identification of the low-lying 7.6 eV isomer of ^{229}Th . <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011, 44, 165005.	1.5	32
28	The observation of vibrating pear-shapes in radon nuclei. <i>Nature Communications</i> , 2019, 10, 2473.	12.8	32
29	An All-Solid-State High Repetition Rate Titanium:Sapphire Laser System For Resonance Ionization Laser Ion Sources. , 2009, , .		31
30	In-gas laser ionization and spectroscopy of actinium isotopes near the $N=126$ closed shell. <i>Physical Review C</i> , 2017, 96, .	2.9	27
31	Large Shape Staggering in Neutron-Deficient Bi Isotopes. <i>Physical Review Letters</i> , 2021, 127, 192501.	7.8	27
32	On-line implementation and first operation of the Laser Ion Source and Trap at ISOLDE/CERN. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015, 344, 83-95.	1.4	24
33	Hyperfine anomaly in gold and magnetic moments of ^{197}Au and ^{199}Au gold isomers. <i>Physical Review C</i> , 2020, 101, .	2.9	24
34	The laser ion source trap for highest isobaric selectivity in online exotic isotope production. <i>Review of Scientific Instruments</i> , 2010, 81, 02A515.	1.3	23
35	Changes in mean-squared charge radii and magnetic moments of ^{179}Yb and ^{184}Yb measured by in-source laser spectroscopy. <i>Physical Review C</i> , 2017, 95, .	2.9	23
36	Isotope Shifts of Radium Monofluoride Molecules. <i>Physical Review Letters</i> , 2021, 127, 033001.	7.8	23

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37	Laser developments and resonance ionization spectroscopy at IGISOL. European Physical Journal A, 2012, 48, 1.	2.5	22
38	First application of the Laser Ion Source and Trap (LIST) for on-line experiments at ISOLDE. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 417-421.	1.4	22
39	Experimental tests of an advanced proton-to-neutron converter at ISOLDE-CERN. Nuclear Instruments & Methods in Physics Research B, 2014, 336, 143-148.	1.4	22
40	Blurring the boundaries between ion sources: The application of the RILIS inside a FEBIAD type ion source at ISOLDE. Nuclear Instruments & Methods in Physics Research B, 2016, 376, 39-45.	1.4	22
41	Change in structure between the $\lambda^{-1/2}$ states in ^{181}Tl and $^{177,179}\text{Au}$. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 786, 355-363.	4.1	22
42	CERN-MEDICIS: A Review Since Commissioning in 2017. Frontiers in Medicine, 2021, 8, 693682.	2.6	22
43	Quadrupole moments of odd-A ^{53}Mn to ^{63}Mn : Onset of collectivity towards $N = 40$. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 760, 387-392.	4.1	21
44	Laser-spectroscopy studies of the nuclear structure of neutron-rich radium. Physical Review C, 2018, 97, .	2.9	21
45	Developments towards in-gas-jet laser spectroscopy studies of actinium isotopes at LISOL. Nuclear Instruments & Methods in Physics Research B, 2016, 376, 382-387.	1.4	20
46	Development of the CRIS (Collinear Resonant Ionisation Spectroscopy) beam line. Journal of Physics: Conference Series, 2012, 381, 012070.	0.4	19
47	A dedicated decay-spectroscopy station for the collinear resonance ionization experiment at ISOLDE. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 707, 35-39.	1.6	19
48	In-Source Laser Spectroscopy with the Laser Ion Source and Trap: First Direct Study of the Ground-State Properties of ^{217}Po . Physical Review X, 2015, 5, .	8.9	18
49	Data acquisition, remote control and equipment monitoring for ISOLDE RILIS. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 557-560.	1.4	17
50	Recent Results for the ECHo Experiment. Journal of Low Temperature Physics, 2016, 184, 910-921.	1.4	17
51	High-resolution laser spectroscopy with the Collinear Resonance Ionisation Spectroscopy (CRIS) experiment at CERN-ISOLDE. Nuclear Instruments & Methods in Physics Research B, 2016, 376, 284-287.	1.4	16
52	A hot cavity laser ion source at IGISOL. European Physical Journal A, 2009, 42, 509.	2.5	15
53	Laser and decay spectroscopy of the short-lived isotope ^{214}Fr in the vicinity of the $N = 126$ shell. Spectroscopy of the long-lived excited state in the neutron-deficient nuclides ^{195}Po and ^{197}Po by precision mass measurements. Physical Review C, 2017, 96, .	2.9	15
54	Spectroscopy of the long-lived excited state in the neutron-deficient nuclides ^{195}Po and ^{197}Po by precision mass measurements. Physical Review C, 2017, 96, .	2.9	15

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55	Probing the ^{31}Ga ground-state properties in the region near ^{28}Z with high-resolution laser spectroscopy. Physical Review C, 2017, 96, .	2.9	15
56	High-resolution and low-background ^{163}Ho spectrum: interpretation of the resonance tails. European Physical Journal C, 2019, 79, 1.	3.9	15
57	Combined high-resolution laser spectroscopy and nuclear decay spectroscopy for the study of the low-lying states in ^{206}Fr , ^{202}At , and ^{198}Bi . Physical Review C, 2016, 93, .	2.9	14
58	Enhancing the extraction of laser-ionized beams from an arc discharge ion source volume. Nuclear Instruments & Methods in Physics Research B, 2018, 431, 59-66.	1.4	14
59	Determination of the first ionization potential of technetium. Physical Review A, 2010, 81, .	2.5	13
60	Laser photodetachment of radioactive ^{128}I . Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 104003.	3.6	13
61	Inverse odd-even staggering in nuclear charge radii and possible octupole collectivity in ^{217}At , ^{218}At , and ^{219}At revealed by in-source laser spectroscopy. Physical Review C, 2019, 99, .	2.9	13
62	MELISSA: Laser ion source setup at CERN-MEDICIS facility. Blueprint. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 460-463.	1.4	13
63	In-source resonance ionization spectroscopy of high lying energy levels in atomic uranium. Hyperfine Interactions, 2010, 196, 71-79.	0.5	12
64	Laser assisted decay spectroscopy at the CRIS beam line at ISOLDE. Journal of Physics: Conference Series, 2012, 381, 012128.	0.4	12
65	Structure of low-lying states in ^{140}Sm studied by Coulomb excitation. Physical Review C, 2016, 93, .	2.9	12
66	Penning-trap mass spectrometry and mean-field study of nuclear shape coexistence in the neutron-deficient lead region. Physical Review C, 2017, 95, .	2.9	12
67	RILIS-ionized mercury and tellurium beams at ISOLDE CERN. Hyperfine Interactions, 2017, 238, 1.	0.5	11
68	RILIS applications at CERN/ISOLDE. Hyperfine Interactions, 2014, 227, 101-111.	0.5	10
69	^{12}C -delayed fission and ^{12}C decay of ^{105}At . Physical Review C, 2016, 93, .	2.9	10
70	Production, isolation and characterization of radiochemically pure ^{163}Ho samples for the ECHO-project. Radiochimica Acta, 2018, 106, 535-547.	1.2	10
71	Determination of the first ionization energy of polonium by resonance ionization spectroscopy – Part II: Measurement of odd-parity Rydberg states at CERN-ISOLDE. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 151, 72-82.	2.9	10
72	Laser-assisted decay spectroscopy for the ground states of ^{180}Au and ^{182}Au . Physical Review C, 2020, 102, .	2.9	10

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73	Detailed spectroscopy of doubly magic ^{132}Sn . Physical Review C, 2020, 102, .	2.9	10
74	Charge radii, moments, and masses of mercury isotopes across the shell closure. Physical Review C, 2021, 104, .	2.9	10
75	Ion production from solid state laser ion sources. Review of Scientific Instruments, 2010, 81, 02A514.	1.3	9
76	Laser resonance ionization scheme development for tellurium and germanium at the dual Ti:Sa "Dye ISOLDE RILIS. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 830, 510-514.	1.6	9
77	Continuously tunable pulsed Ti:Sa laser self-seeded by an extended grating cavity. Optics Express, 2017, 25, 1123.	3.4	9
78	\hat{I}^2 decay of In^{133} : \hat{I}^3 emission from neutron-unbound states in Sn^{133} . Physical Review C, 2019, 99, .	2.9	9
79	Addendum: The observation of vibrating pear-shapes in radon nuclei. Nature Communications, 2020, 11, 3560.	12.8	9
80	Laser-assisted decay spectroscopy and mass spectrometry of ^{178}Au . Physical Review C, 2020, 102, .	2.9	8
81	The identification of autoionizing states of atomic chromium for the resonance ionization laser ion source of the ISOLDE radioactive ion beam facility. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 129, 58-63.	2.9	7
82	\hat{I}^2 -delayed fission of isomers in Bi^{188} . Physical Review C, 2020, 102, .	2.9	7
83	Laser-assisted nuclear decay spectroscopy of ^{176}Au . Physical Review C, 2021, 104, .	2.9	7
84	Coulomb excitation of ^{222}Rn . Physical Review C, 2022, 105, .	2.9	7
85	The selective and efficient laser ion source and trap project LIST for on-line production of exotic nuclides. Hyperfine Interactions, 2010, 196, 151-160.	0.5	6
86	Hyperfine structure and isotope shift in the ^{32}S . Physical Review C, 2021, 104, .	2.5	6
87	Advances in surface ion suppression from RILIS: Towards the Time-of-Flight Laser Ion Source (ToF-LIS). Nuclear Instruments & Methods in Physics Research B, 2016, 376, 86-90.	1.4	6
88	First demonstration of Doppler-free 2-photon in-source laser spectroscopy at the ISOLDE-RILIS. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 476-481.	1.4	6
89	Fine structure in the \hat{I}^{\pm} decay of At^{218} . Physical Review C, 2019, 99, .	2.9	5
90	First ^{135}In \hat{I}^2 -decay spectroscopy of ^{135}In and new ^{135}In \hat{I}^2 -decay branches of ^{135}In .	2.9	5

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91	CRIS: A new method in isomeric beam production. EPJ Web of Conferences, 2013, 63, 01007.	0.3	3
92	An inductively heated hot cavity catcher laser ion source. Review of Scientific Instruments, 2015, 86, 123501.	1.3	3
93	Radium ionization scheme development: The first observed autoionizing states and optical pumping effects in the hot cavity environment. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2018, 150, 99-104.	2.9	3
94	Developments towards the delivery of selenium ion beams at ISOLDE. European Physical Journal A, 2019, 55, 1.	2.5	3
95	Design and tests for the new CERN-ISOLDE spallation source: an integrated tungsten converter surrounded by an annular UC target operated at 2000â€°C. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 357-363.	1.4	3
96	Upgrades of the GANDALPH photodetachment detector towards the determination of the electron affinity of astatine. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 277-279.	1.4	3
97	Atom beam emersion from hot cavity laser ion sources. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 449-454.	1.4	3
98	In-source laser photoionization spectroscopy of Bi isotopes: accuracy of the technique and methods of data analysis. Hyperfine Interactions, 2020, 241, 1.	0.5	3
99	A miniaturized low-power SiPM-based $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e189" altimg="si22.svg" \rangle \langle \text{mml:mi} \rangle^2 \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ detector for the ISOLDE Fast Tapestation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1026, 166213.	1.6	3
100	First results from the CRIS experiment. Hyperfine Interactions, 2013, 227, 131.	0.5	2
101	Development of a proton-to-neutron converter for radioisotope production at ISAC-TRIUMF. Journal of Physics: Conference Series, 2018, 1067, 082022.	0.4	2
102	In-source laser spectroscopy of dysprosium isotopes at the ISOLDE-RILIS. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 472-475.	1.4	2
103	Status of GISELE: a resonant ionization laser ion source for the production of radioactive ions at GANIL. , 2013, , 121-126.		2
104	A cold electron-impact ion source driven by a photo-cathode â€“ New opportunities for the delivery of radioactive molecular beams?. Journal of Physics: Conference Series, 2022, 2244, 012072.	0.4	2
105	A concept for the extraction of the most refractory elements at CERN-ISOLDE as carbonyl complex ions. European Physical Journal A, 2022, 58, .	2.5	2
106	Status of GISELE: a resonant ionization laser ion source for the production of radioactive ions at GANIL. Hyperfine Interactions, 2013, 216, 121-126.	0.5	1
107	Resonance ionization scheme development for europium. Hyperfine Interactions, 2017, 238, 1.	0.5	1
108	Coulomb excitation of pear-shaped nuclei. EPJ Web of Conferences, 2019, 223, 01007.	0.3	0

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109	Determination of the electron affinity of astatine. Journal of Physics: Conference Series, 2020, 1412, 132024.	0.4	0
110	Laser developments and resonance ionization spectroscopy at IGISOL. , 2012, , 295-309.		0
111	The CERN/ISOLDE Laser Ion Source. , 2017, , .		0
112	Optimizing Ti:Sapphire laser for quantitative biomedical imaging. , 2018, , .		0
113	Producing gold at ISOLDE-CERN. Nuclear Instruments & Methods in Physics Research B, 2022, 513, 26-32.	1.4	0