

# Thomas Elias Cocolios

## List of Publications by Year in descending order

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150  
papers

4,169  
citations

94433

37  
h-index

144013

57  
g-index

155  
all docs

155  
docs citations

155  
times ranked

1735  
citing authors

#	ARTICLE	IF	CITATIONS
1	Studies of pear-shaped nuclei using accelerated radioactive beams. Nature, 2013, 497, 199-204.	27.8	268
2	New Type of Asymmetric Fission in Proton-Rich Nuclei. Physical Review Letters, 2010, 105, 252502.	7.8	197
3	The Miniball spectrometer. European Physical Journal A, 2013, 49, 1.	2.5	126
4	Nuclear Charge Radii of Neutron-Deficient Lead Isotopes Beyond $N=104$ Midshell Investigated by In-Source Laser Spectroscopy. Physical Review Letters, 2007, 98, 112502.	7.8	116
5	Characterization of the shape-staggering effect in mercury nuclei. Nature Physics, 2018, 14, 1163-1167.	16.7	106
6	Shape Coexistence in the Neutron-Deficient Even-Even $^{182}\text{Hg}$ Studied via Coulomb Excitation. Physical Review Letters, 2014, 112, 162701.	7.8	96
7	Early Onset of Ground State Deformation in Neutron Deficient Polonium Isotopes. Physical Review Letters, 2011, 106, 052503.	7.8	94
8	Measurement of the first ionization potential of astatine by laser ionization spectroscopy. Nature Communications, 2013, 4, 1835.	12.8	89
9	Interplay between Single-Particle and Collective Effects in the Odd- $A$ $^{112}\text{Cu}$ Isotopes beyond $N=68$ . Physical Review Letters, 2008, 100, 112502.	7.8	80
10	Charge radii of exotic potassium isotopes challenge nuclear theory and the magic character of $N=32$ . Nature Physics, 2021, 17, 439-443.	16.7	79
11	Spectroscopy of short-lived radioactive molecules. Nature, 2020, 581, 396-400.	27.8	78
12	Measurement and microscopic description of odd-even staggering of charge radii of exotic copper isotopes. Nature Physics, 2020, 16, 620-624.	16.7	76
13	Magnetic Dipole Moment of $^{67}\text{Cu}$ Measured by In-Gas-Cell Laser Spectroscopy. Physical Review Letters, 2009, 103, 102501.	7.8	72
14	Binding Energy of $^{112}\text{Cu}$ : Probing the Structure of the Doubly Magic $^{112}\text{Cu}$ . Physical Review Letters, 2008, 100, 112502.	7.8	70
15	Coulomb Excitation of Neutron-Rich Zn Isotopes: First Observation of the $21^+$ State in $^{80}\text{Zn}$ . Physical Review Letters, 2007, 99, 142501.	7.8	66
16	Precision Mass Measurements of $^{112}\text{Cd}$ : Their Impact on Stellar Nucleosynthesis via the Rapid Neutron Capture Process. Physical Review Letters, 2015, 115, 232501.	7.8	66
17	Laser spectroscopy of radioactive isotopes: Role and limitations of accurate isotope-shift calculations. Physical Review A, 2012, 86, .	2.5	65
18	Charge radii of odd- $A$ $^{211}\text{Po}$ isotopes. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2013, 719, 362-366.	4.1	64

#	ARTICLE	IF	CITATIONS
19	Collinear Resonance Ionization Spectroscopy of Neutron-Deficient Francium Isotopes. Physical Review Letters, 2013, 111, 212501.	7.8	63
20	Dual chamber laser ion source at LISOL. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2908-2917.	1.4	59
21	Shape isomerism at N=40: Discovery of a proton intruder state in Co67. Physical Review C, 2008, 78, .	2.9	58
22	Low-energy Coulomb excitation of neutron-rich zinc isotopes. Physical Review C, 2009, 79, .	2.9	58
23	Use of a Continuous Wave Laser and Pockels Cell for Sensitive High-Resolution Collinear Resonance Ionization Spectroscopy. Physical Review Letters, 2015, 115, 132501.	7.8	54
24	Structure of Co65,67 studied through the $\beta^2$ decay of Fe65,67 and a deep-inelastic reaction. Physical Review C, 2009, 79, .	2.9	53
25	Electromagnetic moments of odd- $A$ nuclei. Physical Review C, 2014, 89, .	2.9	51
26	New developments of the in-source spectroscopy method at RILIS/ISOLDE. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 550-556.	1.4	47
27	Shape coexistence in $^{180}\text{Hg}$ studied through the $\beta^2$ decay of $^{180}\text{Hg}$ . Physical Review C, 2014, 89, .	2.9	46
28	Magnetic dipole moments of $^{57}\text{Cu}$ and $^{58}\text{Cu}$ . Physical Review C, 2010, 81, .	2.9	43
29	Shape staggering of midshell mercury isotopes from in-source laser spectroscopy compared with density-functional-theory and Monte Carlo shell-model calculations. Physical Review C, 2019, 99, .	2.9	43
30	Recent exploits of the ISOLTRAP mass spectrometer. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 492-500.	1.4	41
31	Delayed fission of $^{238}\text{U}$ . Physical Review C, 2013, 88, .	2.9	41
32	Dipole and quadrupole moments of $^{73}\text{Cu}$ and $^{78}\text{Cu}$ as a test of the robustness of the shell model. Physical Review C, 2013, 88, .	2.9	41
33	First glimpse of the $^{28}\text{Zn}$ shell closure below $^{50}\text{Z}$ . Physical Review Letters, 2020, 124, 032502.	7.8	41
34	The Laser Ion Source Trap (LIST) coupled to a gas cell catcher. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2918-2926.	1.4	39
35	Laser spectroscopy of francium isotopes at the borders of the region of reflection asymmetry. Physical Review C, 2014, 90, .	2.9	39
36	In-gas-cell laser ionization spectroscopy in the vicinity of $^{100}\text{Sn}$ : Magnetic moments and mean-square charge radii of $^{50}\text{N}$ . Ag. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 728, 191-197.	4.1	39

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37	Evolution of fission-fragment mass distributions in the neutron-deficient lead region. Physical Review C, 2014, 90. Laser Spectroscopy of Neutron-Rich $\text{Hg}$	2.9	39
38	Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the $N=207$ and $N=208$	2.9	37
39	The Collinear Resonance Ionization Spectroscopy (CRIS) experimental setup at CERN-ISOLDE. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 565-569.	1.4	36
40	Charge radii and electromagnetic moments of $\text{At}$	2.9	35
41	TRIUMF resonant ionization laser ion source. Hyperfine Interactions, 2006, 171, 127-134.	0.5	34
42	Decay-Assisted Laser Spectroscopy of Neutron-Deficient Francium. Physical Review X, 2014, 4, .	8.9	34
43	Decay of the $9/2^+$ isomer in $\text{Tl181}$ and mass determination of low-lying states in $\text{Tl181}$ , $\text{Au177}$ , and $\text{Ir173}$ . Physical Review C, 2009, 80, .	2.9	31
44	Resonant laser ionization of polonium at rillis-isolde for the study of ground- and isomer-state properties. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 4403-4406.	1.4	29
45	Single-neutron orbits near $78\text{Ni}$ : Spectroscopy of the $N=49$ isotope $79\text{Zn}$ . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 740, 298-302.	4.1	27
46	Large Shape Staggering in Neutron-Deficient Bi Isotopes. Physical Review Letters, 2021, 127, 192501.	7.8	27
47	Development and first on-line tests of the RIA gas catcher prototype. Nuclear Physics A, 2004, 746, 415-418.	1.5	25
48	The new isotope $^{179}\text{Pb}$ and $\beta$ -decay properties of $^{179}\text{Tl}$ .	3.6	25
49	Deformation and mixing of coexisting shapes in neutron-deficient polonium isotopes. Physical Review C, 2015, 92, .	2.9	25
50	$\beta$ -decay of $^{180}\text{Pb}$	2.9	24
51	$\beta$ -delayed fission and $\beta$ -decay of $^{181}\text{Tl}$	2.9	24
52	Hyperfine anomaly in gold and magnetic moments of $^{178}\text{Au}$ and $^{179}\text{Au}$ gold isomers. Physical Review C, 2020, 101, .	2.9	24
53	Rearrangement of valence neutrons in the neutrinoless double- $\beta$ decay of $^{178}\text{Xe}$	2.9	23
54	Changes in mean-squared charge radii and magnetic moments of $^{179}\text{Tl}$ measured by in-source laser spectroscopy. Physical Review C, 2017, 95, .	2.9	23

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55	Isotope Shifts of Radium Monofluoride Molecules. Physical Review Letters, 2021, 127, 033001.	7.8	23
56	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
57	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
58	Change in structure between the $\pi = 1/2$ states in $^{181}\text{Tl}$ and $^{177,179}\text{Au}$ . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 786, 355-363.	4.1	22
59	Precision measurements of the charge radii of potassium isotopes. Physical Review C, 2019, 100, .	2.9	22
60	Nuclear moments of indium isotopes reveal abrupt change at magic number 82. Nature, 2022, 607, 260-265.	27.8	22
61	Mass spectrometry and decay spectroscopy of isomers across the $Z=82$ shell closure. Physical Review C, 2013, 88, .	2.9	21
62	Laser-spectroscopy studies of the nuclear structure of neutron-rich radium. Physical Review C, 2018, 97, .	2.9	21
63	Simulation of the relative atomic populations of elements $1 \leq Z \leq 89$ following charge exchange tested with collinear resonance ionization spectroscopy of indium. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 153, 61-83.	2.9	21
64	Analytic response relativistic coupled-cluster theory: the first application to indium isotope shifts. New Journal of Physics, 2020, 22, 012001.	2.9	21
65	Measurement of the quadrupole moment of $^{185}\text{Re}$ and $^{187}\text{Re}$ from the hyperfine structure of muonic X rays. Physical Review C, 2020, 101, .	2.9	21
66	Structure of $^{191}\text{Pb}$ from $I^{\pm}$ and $I^2$ -decay spectroscopy. Journal of Physics G: Nuclear and Particle Physics, 2010, 37, 125103.	3.6	20
67	On the performance of wavelength meters: Part 1 consequences for medium-to-high-resolution laser spectroscopy. Applied Physics B: Lasers and Optics, 2020, 126, 1.	2.2	20
68	Development of the CRIS (Collinear Resonant Ionisation Spectroscopy) beam line. Journal of Physics: Conference Series, 2012, 381, 012070.	0.4	19
69	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
70	In-Source Laser Spectroscopy with the Laser Ion Source and Trap: First Direct Study of the Ground-State Properties of $^{217}\text{Po}$ . Physical Review Letters, 2015, 115, 082501.	8.9	18
71	Coulomb Excitation of $^{73}\text{Ga}$ . Physical Review C, 2010, 82, .	2.9	17
72	Precise Determination of the Unperturbed $B^8$ Neutrino Spectrum. Physical Review Letters, 2012, 108, 162502.	7.8	17





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91	Laser assisted decay spectroscopy at the CRIS beam line at ISOLDE. Journal of Physics: Conference Series, 2012, 381, 012128.	0.4	12
92	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
93	Laser spectroscopy of indium Rydberg atom bunches by electric field ionization. Scientific Reports, 2020, 10, 12306.	3.3	12
94	Tin resonance-ionization schemes for atomic- and nuclear-structure studies. Physical Review A, 2020, 102, .	2.5	12
95	$\hat{I}_{\pm}$ -decay study of $\{^{182,184}\text{Tl}\}$ . Journal of Physics G: Nuclear and Particle Physics, 2016, 43, 025102.	3.6	10
96	$\hat{I}_{\pm}^2$ -delayed fission and decay of $\text{At}$ . Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 074003.	2.9	10
97	Quadrupole moment of $\text{Fr}$ . Physical Review C, 2017, 96, .	2.9	10
98	New systematic features in the neutron-deficient Au isotopes. Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 074003.	3.6	10
99	$\hat{I}_{\pm}$ -decay properties of $\text{Fr}$ . Physical Review C, 2020, 102, .	2.9	10
100	Laser-assisted decay spectroscopy for the ground states of $\text{Au}$ . Physical Review C, 2020, 102, .	2.9	10
101	Production of Sm-153 With Very High Specific Activity for Targeted Radionuclide Therapy. Frontiers in Medicine, 2021, 8, 675221.	2.6	10
102	Charge radii, moments, and masses of mercury isotopes across the shell closure. Physical Review C, 2021, 104, .	2.9	126
103	Electromagnetic moments of scandium isotopes and $\text{Na}^{\epsilon=28}$ isotones in the distinctive $0f_{7/2}$ orbit. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2022, 829, 137064.	4.1	10
104	$^{26}\text{Al}$ beam production by a solid state laser ion source at TRIUMF. Hyperfine Interactions, 2007, 174, 27-32.	0.5	9
105	Decay correlations in the seconds range with laser-ionized, mass-separated beams. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 4600-4605.	1.4	9
106	Gamow-Teller transitions in exotic pf-shell nuclei relevant to supernova explosion. Journal of Physics G: Nuclear and Particle Physics, 2008, 35, 014041.	3.6	9
107	Characterization of a Continuous Muon Source for the Non-Destructive and Depth-Selective Elemental Composition Analysis by Muon Induced X- and Gamma-rays. Applied Sciences (Switzerland), 2022, 12, 2541.	2.5	9
108	$\hat{I}_{\pm}$ decay of $\text{Au}^{176}$ . Physical Review C, 2014, 90, .	2.9	8

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109	Collectivity in the light radon nuclei measured directly via Coulomb excitation. Physical Review C, 2015, 91, .	2.9	8
110	Laser-assisted decay spectroscopy and mass spectrometry of $^{178}\text{Au}$ . Physical Review C, 2020, 102, .	2.9	8
111	Laser assisted decay spectroscopy at the CRIS beam line at ISOLDE. Hyperfine Interactions, 2013, 216, 95-101.	0.5	7
112	Internal decay of the $^{184}\text{Tl}$ state in $^{184}\text{Pb}$ . Physical Review C, 2015, 92, .	2.9	7
113	Production of intense mass separated $^{11}\text{C}$ beams for PET-aided hadron therapy. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 403-407.	1.4	7
114	Resonance ionization schemes for high resolution and high efficiency studies of exotic nuclei at the CRIS experiment. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 398-402.	1.4	7
115	$\hat{I}^2$ -delayed fission of isomers in $\text{Bi}188$ . Physical Review C, 2020, 102, .	2.9	7
116	Nuclear structure of $^{181}\text{Au}$ studied via $\beta^+/\text{EC}$ decay of $^{181}\text{Hg}$ at ISOLDE. European Physical Journal A, 2020, 56, 1.	2.5	7
117	First laser ions at the CERN-MEDICIS facility. Hyperfine Interactions, 2020, 241, 1.	0.5	7
118	Laser-assisted nuclear decay spectroscopy of $^{176}\text{Au}$ . Physical Review C, 2021, 104, .	2.9	7
119	Precision electron-capture energy in $^{202}\text{Pb}$ and its relevance for neutrino mass determination. European Physical Journal A, 2017, 53, 1.	2.5	6
120	A new control system for high-precision In-Gas Laser Ionization and Spectroscopy experiments at KU Leuven. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 297-301.	1.4	6
121	A compact linear Paul trap cooler buncher for CRIS. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 375-377.	1.4	6
122	Fine structure in the $\hat{I}^{\pm}$ decay of $\text{At}218$ . Physical Review C, 2019, 99, .	2.9	5
123	Measurement of spallation cross sections for the production of terbium radioisotopes for medical applications from tantalum targets. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 327-329.	1.4	5
124	Lifetime Measurements and Coulomb Excitation of Light Hg Nuclei. , 2009, , .		4
125	Identification and decay of the 0.48 ms $^{181}\text{Hg}$ . Physical Review C, 2019, 99, .	2.9	4
126	Detailed $^{180}\text{Tl}$ $\hat{I}^{\pm}$ -decay study of $^{180}\text{Tl}$ . Physical Review C, 2017, 96, .	2.9	4



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127	Nuclear structure with radioactive muonic atoms. EPJ Web of Conferences, 2018, 193, 04014.	0.3	4
128	A porous hexagonal boron nitride powder compact for the production and release of radioactive <sup>11</sup> C. Journal of the European Ceramic Society, 2021, 41, 4086-4097.	5.7	4
129	Early onset of deformation in the neutron-deficient polonium isotopes. Journal of Physics: Conference Series, 2012, 381, 012072.	0.4	3
130	CRIS: A new method in isomeric beam production. EPJ Web of Conferences, 2013, 63, 01007.	0.3	3
131	Application of the Broad Energy Germanium detector: A technique for elucidating <sup>12</sup> I <sup>-</sup> decay schemes which involve daughter nuclei with very low energy excited states. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 849, 112-118.	1.6	3
132	Collectivity in <sup>196,198</sup> Pb isotopes probed in Coulomb-excitation experiments at REX-ISOLDE. Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 064009.	3.6	3
133	A simple decay-spectroscopy station at CRIS-ISOLDE. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 844, 14-18.	1.6	3
134	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
135	A compact RFQ cooler buncher for CRIS experiments. Hyperfine Interactions, 2019, 240, 1.	0.5	3
136	First results from the CRIS experiment. Hyperfine Interactions, 2013, 227, 131.	0.5	2
137	Determination of the <sup>3</sup> 0 <sup>+</sup> <sup>3</sup> <sup>+</sup> -excitation strength in octupole-correlated nuclei near <sup>224</sup> A by the means of Coulomb excitation at REX-ISOLDE. Journal of Physics: Conference Series, 2014, 533, 012007.	0.4	2
138	Shapes and Collectivity in Neutron Deficient Even-Mass <sup>188-198</sup> Pb Isotopes. , 2015, , .		2
139	MEDICIS-Promed: an Innovative Training Network for a new generation of professionals in nuclear medicine. IFMBE Proceedings, 2018, , 530-533.	0.3	2
140	$\hat{I}^{\pm}$ -decay branching ratio of <sup>219</sup> Pt. Physical Review C, 2020, 101, 054305 (2016).	2.9	2
141	<sup>214</sup> Fr in the vicinity of the shell closure [Phys. Rev. C <b>94</b> , 054305 (2016)]. Physical Review C, 2016, 94, .	2.9	1
142	The ISOLDE LEGO®robot: building interest in frontier research. Physics Education, 2017, 52, 044004.	0.5	1
143	A new perspective on charge radii around Z = 82. Hyperfine Interactions, 2017, 238, 1.	0.5	1
144	The Institute for Nuclear and Radiation Physics at the University of Leuven. Nuclear Physics News, 2017, 27, 18-22.	0.4	1

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145	Decay modes of the $^{183}\text{mTl}$ isomeric state in $^{183}\text{Tl}$ . Physical Review C, 2022, 105, 014301.	2.9	1
146	Design and thermal simulations towards a high intensity radioactive ion source for ISOL@MYRRHA. Journal of Physics: Conference Series, 2022, 2244, 012065.	0.4	1
147	Coulomb Excitation of the $^{80}\text{Zn}$ nucleus. AIP Conference Proceedings, 2008, , .	0.4	0
148	Do nuclei go pear-shaped? Coulomb excitation of $^{220}\text{Rn}$ and $^{224}\text{Ra}$ at REX-ISOLDE (CERN). EPJ Web of Conferences, 2015, 93, 01038.	0.3	0
149	Laser assisted decay spectroscopy at the CRIS beam line at ISOLDE. , 2013, , 95-101.		0
150	Producing gold at ISOLDE-CERN. Nuclear Instruments & Methods in Physics Research B, 2022, 513, 26-32.	1.4	0