

# Liam P Gaffney

## List of Publications by Year in descending order

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Version: 2024-02-01

80  
papers

1,856  
citations

279798

23  
h-index

276875

41  
g-index

87  
all docs

87  
docs citations

87  
times ranked

1241  
citing authors

#	ARTICLE	IF	CITATIONS
1	Producing gold at ISOLDE-CERN. Nuclear Instruments & Methods in Physics Research B, 2022, 513, 26-32.	1.4	0
2	Coulomb excitation of $^{222}\text{Rn}$ . Physical Review C, 2022, 105, 024601.	2.9	7
3	Coulomb excitation of $^{221}\text{Ac}$ and $^{221}\text{Pa}$ . Physical Review C, 2022, 105, 024602.	2.9	5
4	Laser-assisted nuclear decay spectroscopy of $^{176}\text{Au}$ and $^{177}\text{Au}$ . Physical Review C, 2021, 104, 044601.	2.9	7
5	Structure of high-lying levels populated in the $^{96}\text{Y} \rightarrow ^{96}\text{Zr}$ decay. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 820, 136569.	4.1	5
6	Laser Spectroscopy of Neutron-Rich $^{207}\text{Hg}$ and $^{208}\text{Hg}$ Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the $^{207}\text{N}$ shell closure. Physical Review C, 2021, 104, 044602.	2.9	7
7	Large Shape Staggering in Neutron-Deficient Bi Isotopes. Physical Review Letters, 2021, 127, 192501.	7.8	27
8	Charge radii, moments, and masses of mercury isotopes across the $^{206}\text{N}$ shell closure. Physical Review C, 2021, 104, 044603.	2.9	7
9	Laser-assisted decay spectroscopy for the ground states of $^{180}\text{Au}$ and $^{182}\text{Au}$ . Physical Review C, 2020, 102, 044601.	2.9	10
10	Restoring the valence-shell stabilization in $^{140}\text{Nd}$ . Physical Review C, 2020, 102, 044602.	2.9	1
11	Shape coexistence in neutron-deficient $^{188}\text{Hg}$ investigated via lifetime measurements. Physical Review C, 2020, 102, 044603.	2.9	11
12	Addendum: The observation of vibrating pear-shapes in radon nuclei. Nature Communications, 2020, 11, 3560.	12.8	9
13	$\hat{I}^2$ -delayed fission of isomers in $^{188}\text{Bi}$ . Physical Review C, 2020, 102, 044604.	2.9	7
14	Physics opportunities with the Advanced Gamma Tracking Array: AGATA. European Physical Journal A, 2020, 56, 1.	2.5	32
15	Laser-assisted decay spectroscopy and mass spectrometry of $^{178}\text{Au}$ . Physical Review C, 2020, 102, 044605.	2.9	8
16	Decay studies of the long-lived states in $^{186}\text{Tl}$ . Physical Review C, 2020, 102, 044606.	2.9	3
17	Coulomb Excitation of Proton-rich $N = 80$ Isotones at HIE-ISOLDE. Journal of Physics: Conference Series, 2020, 1555, 012027.	0.4	0
18	Population of lead isotopes in binary reactions using a $^{94}\text{Rb}$ radioactive beam. Physical Review C, 2020, 102, 044607.	2.9	6

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19	Quadrupole deformation of $^{130}\text{Xe}$ measured in a Coulomb-excitation experiment. <i>Physical Review C</i> , 2020, 102, .	2.9	22
20	Hyperfine anomaly in gold and magnetic moments of $^{197}\text{Au}$ gold isomers. <i>Physical Review C</i> , 2020, 101, .	2.9	24
21	First Exploration of Neutron Shell Structure below Lead and beyond $^{126}\text{N}$ . <i>Physical Review Letters</i> , 2020, 124, 062502.	7.8	18
22	-decay branching ratio of $^{180}\text{Pt}$ . <i>Physical Review C</i> , 2020, 101, .	2.9	2
23	and $^{222}\text{Ra}$ . <i>Physical Review C</i> , 2020, 101, .	7.8	50
24	Dealing with contaminants in Coulomb excitation of radioactive beams. <i>Journal of Physics: Conference Series</i> , 2020, 1643, 012146.	0.4	2
25	Lifetimes and shape-coexisting states of $^{99}\text{Zr}$ . <i>Physical Review C</i> , 2019, 100, .	2.9	10
26	$\hat{I}^{\pm}$ -decay spectroscopy of the $N=130$ isotones $^{218}\text{Ra}$ and $^{220}\text{Th}$ : Mitigation of $\hat{I}^{\pm}$ -particle energy summing with implanted nuclei. <i>Physical Review C</i> , 2019, 100, .	2.9	5
27	Electromagnetic properties of low-lying states in neutron-deficient Hg isotopes: Coulomb excitation of $^{182}\text{Hg}$ , $^{184}\text{Hg}$ , $^{186}\text{Hg}$ and $^{188}\text{Hg}$ . <i>European Physical Journal A</i> , 2019, 55, 1.	2.5	13
28	Fine structure in the $\hat{I}^{\pm}$ decay of $^{218}\text{At}$ . <i>Physical Review C</i> , 2019, 99, .	2.9	5
29	The observation of vibrating pear-shapes in radon nuclei. <i>Nature Communications</i> , 2019, 10, 2473.	12.8	32
30	Inverse odd-even staggering in nuclear charge radii and possible octupole collectivity in $^{217}\text{At}$ , $^{218}\text{At}$ , $^{219}\text{At}$ revealed by in-source laser spectroscopy. <i>Physical Review C</i> , 2019, 99, .	2.9	13
31	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
32	Study of the neutron-rich region in the vicinity of $^{208}\text{Pb}$ via multinucleon transfer reactions. <i>EPJ Web of Conferences</i> , 2019, 223, 01012.	0.3	1
33	The SPEDE spectrometer. <i>European Physical Journal A</i> , 2018, 54, 1.	2.5	11
34	Enhanced Quadrupole and Octupole Strength in Doubly Magic $^{132}\text{Sn}$ . <i>Physical Review Letters</i> , 2018, 121, 252501.	7.8	33
35	Search for Isovector Valence-Shell Excitations in $^{140}\text{Nd}$ and $^{142}\text{Sm}$ via Coulomb excitation reactions of radioactive ion beams. <i>EPJ Web of Conferences</i> , 2018, 194, 03003.	0.3	1
36	Change in structure between the $\hat{I}^{\pm}=\hat{I}^{\pm}1/2$ states in $^{181}\text{Tl}$ and $^{177,179}\text{Au}$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2018, 786, 355-363.	4.1	22

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37	Characterization of the shape-staggering effect in mercury nuclei. Nature Physics, 2018, 14, 1163-1167.	16.7	106
38	Characterization of Supersonic Gas Jets for High-Resolution Laser Ionization Spectroscopy of Heavy Elements. Physical Review X, 2018, 8, .	8.9	12
39	Charge radii and electromagnetic moments of $^{195}\text{At}$ . Physical Review C, 2018, 97, .	2.9	35
40	Coulomb Excitation of $^{142}\text{Xe}$ . Acta Physica Polonica B, 2018, 49, 529.	0.8	0
41	Towards high-resolution laser ionization spectroscopy of the heaviest elements in supersonic gas jet expansion. Nature Communications, 2017, 8, 14520.	12.8	90
42	Half-life of the $15/2^+$ state of $^{135}\text{La}$ : A test of E2 seniority relations. Physical Review C, 2017, 95, .	2.9	10
43	Collectivity in $^{196,198}\text{Pb}$ isotopes probed in Coulomb-excitation experiments at REX-ISOLDE. Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 064009.	3.6	3
44	Publisher's Note: Half-life of the $15/2^+$ state of $^{135}\text{La}$ : A test of E2 seniority relations [Phys. Rev. C 95, 021302(R) (2017)]. Physical Review C, 2017, 95, .	2.9	0
45	Shell evolution of stable $N = 50-56$ Zr and Mo nuclei with respect to low-lying octupole excitations. European Physical Journal A, 2017, 53, 1.	2.5	18
46	Study of bound states in $^{10}\text{Be}$ by one neutron removal reactions of $^{11}\text{Be}$ . Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 044009.	3.6	4
47	In-gas laser ionization and spectroscopy of actinium isotopes near the $N=126$ closed shell. Physical Review C, 2017, 96, .	2.9	27
48	$\beta$ Decay as a New Probe for the Low-energy E1 Strength. Acta Physica Polonica B, 2017, 48, 547.	0.8	1
49	Collective $2^+ 1^-$ excitations in $^{206}\text{Po}$ and $^{208,210}\text{Rn}$ . European Physical Journal A, 2016, 52, 1.	2.5	8
50	A new in-gas-laser ionization and spectroscopy laboratory for off-line studies at KU Leuven. Nuclear Instruments & Methods in Physics Research B, 2016, 376, 345-352.	1.4	21
51	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
52	Fast-timing study of the $l$ -forbidden $1^-$ state in $^{135}\text{La}$ . Physical Review C, 2016, 93, .	2.9	8
53	Investigating the Pygmy Dipole Resonance Using $^{12}\text{C}$ Decay. Physical Review Letters, 2016, 116, 132501.	7.8	17
54	Spectroscopy of $^{46}\text{Ar}$ by the $t$ -reaction. Physical Review C, 2016, 93, .	2.9	17

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55	Rearrangement of valence neutrons in the neutrinoless double- $\beta$ decay of $^{136}\text{Xe}$ . Physical Review C, 2016, 94, 014302.	2.9	23
56	Unique and complementary information on shape coexistence in the neutron-deficient Pb region derived from Coulomb excitation. Journal of Physics G: Nuclear and Particle Physics, 2016, 43, 024012.	3.6	20
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	Analysis methods of safe Coulomb-excitation experiments with radioactive ion beams using the GOSIA code. European Physical Journal A, 2016, 52, 1.	2.5	48
59	Study of Octupole Collectivity in $^{146}\text{Nd}$ and $^{148}\text{Sm}$ Using the New Coulomb Excitation Set-up at ALTO. Acta Physica Polonica B, 2016, 47, 923.	0.8	1
60	X-ray production with heavy post-accelerated radioactive-ion beams in the lead region of interest for Coulomb-excitation measurements. Nuclear Instruments & Methods in Physics Research B, 2015, 360, 97-102.	1.4	5
61	Collectivity in the light radon nuclei measured directly via Coulomb excitation. Physical Review C, 2015, 91, .	2.9	8
62	Deformation and mixing of coexisting shapes in neutron-deficient polonium isotopes. Physical Review C, 2015, 92, .	2.9	25
63	The Cornerstone of the Region of Deformation around $^{187}\text{Rb}$ . Physical Review Letters, 2015, 115, 172501.	7.8	18
64	Shapes and Collectivity in Neutron Deficient Even-Mass $^{188-198}\text{Pb}$ Isotopes. , 2015, , .		2
65	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
66	Low-energy Coulomb excitation of $^{62}\text{Fe}$ and $^{62}\text{Mn}$ following in-beam decay of $^{62}\text{Mn}$ . European Physical Journal A, 2015, 51, 1.	2.5	7
67	Single-neutron orbits near $^{78}\text{Ni}$ : Spectroscopy of the $^{79}\text{Zn}$ isotope. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 740, 298-302.	4.1	27
68	Testing refined shell-model interactions in the sd shell: Coulomb excitation of $^{26}\text{Na}$ . Physical Review C, 2015, 91, .	2.9	6
69	Shape coexistence in neutron-deficient Hg isotopes studied via lifetime measurements in $^{184}\text{Hg}$ and $^{186}\text{Hg}$ . Physical Review C, 2014, 89, .	2.9	36
70	Coulomb excitation of $^{29}\text{Na}$ . Mapping the borders of the island of inversion. Physical Review C, 2014, 89, .	2.9	16
71	Shape coexistence in neutron-deficient Hg isotopes studied via lifetime measurements in $^{182}\text{Hg}$ and $^{188}\text{Hg}$ . Physical Review Letters, 2014, 112, 162701.	7.8	96
72	Determination of the $B(E3, 0^+ \rightarrow 3^+)$ -excitation strength in octupole-correlated nuclei near $^{224}\text{Ac}$ by the means of Coulomb excitation at REX-ISOLDE. Journal of Physics: Conference Series, 2014, 533, 012007.	0.4	2

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73	Shape dynamics in neutron-rich Kr isotopes: Coulomb excitation of $^{92}\text{Kr}$ , $^{94}\text{Kr}$ and $^{96}\text{Kr}$ . Nuclear Physics A, 2013, 899, 1-28.	1.5	40
74	Studies of pear-shaped nuclei using accelerated radioactive beams. Nature, 2013, 497, 199-204.	27.8	268
75	The Miniball spectrometer. European Physical Journal A, 2013, 49, 1.	2.5	126
76	Experimental study of bound states in $^{12}\text{Be}$ through low-energy $^{11}\text{Be}$ through		