

# 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	Studies of pear-shaped nuclei using accelerated radioactive beams. Nature, 2013, 497, 199-204.	27.8	268
2	The Miniball spectrometer. European Physical Journal A, 2013, 49, 1.	2.5	126
3	Characterization of the shape-staggering effect in mercury nuclei. Nature Physics, 2018, 14, 1163-1167.	16.7	106
4	Shape Coexistence in the Neutron-Deficient Even-Even $\text{Hg}$ Isotopes: Studied via Coulomb Excitation. Physical Review Letters, 2014, 112, 162701.	7.8	96
5	Towards high-resolution laser ionization spectroscopy of the heaviest elements in supersonic gas jet expansion. Nature Communications, 2017, 8, 14520.	12.8	90
6	Evidence for a Smooth Onset of Deformation in the Neutron-Rich Kr Isotopes. Physical Review Letters, 2012, 108, 062701.	7.8	69
7	Evolution of Octupole Deformation in Radium Nuclei from Coulomb Excitation of Radioactive $\text{Ra}$ Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the Shape coexistence in neutron-deficient $\text{Hg}$ isotopes studied via lifetime measurements in $\text{Hg}$ isotopes. Physical Review Letters, 2017, 118, 162701.	7.8	50
8	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
9	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
10	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
11	Laser Spectroscopy of Neutron-Rich $\text{Hg}$ Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the Shape coexistence in neutron-deficient $\text{Hg}$ isotopes studied via lifetime measurements in $\text{Hg}$ isotopes. Physical Review Letters, 2017, 118, 162701.	7.8	37
12	Charge radii and octupole deformation in $\text{At}$ isotopes. Physical Review Letters, 2017, 118, 162701.	2.9	36
13	Enhanced Quadrupole and Octupole Strength in Doubly Magic $\text{Sn}$ Isotopes. Physical Review Letters, 2017, 118, 162701.	2.9	35
14	Single-neutron orbits near $^{78}\text{Ni}$ : Spectroscopy of the $^{78}\text{Ni}$ isotope. Physical Review Letters, 2018, 121, 252501.	7.8	33
15	The observation of vibrating pear-shapes in radon nuclei. Nature Communications, 2019, 10, 2473.	12.8	32
16	Physics opportunities with the Advanced Gamma Tracking Array: AGATA. European Physical Journal A, 2020, 56, 1.	2.5	32
17	Combined in-beam electron and $\text{Hg}$ -ray spectroscopy of $^{186}\text{Hg}$ isotopes. Physical Review Letters, 2017, 118, 162701.	2.9	29
18	Single-neutron orbits near $^{78}\text{Ni}$ : Spectroscopy of the $^{78}\text{Ni}$ isotope. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 740, 298-302.	4.1	27

#	ARTICLE	IF	CITATIONS
19	In-gas laser ionization and spectroscopy of actinium isotopes near the N=126 closed shell. Physical Review C, 2017, 96, .	2.9	27
20	Large Shape Staggering in Neutron-Deficient Bi Isotopes. Physical Review Letters, 2021, 127, 192501. Experimental study of bound states in $^{12}\text{Be}$ through	7.8	27
21	low-energy $^{11}\text{Be}$ through		

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37	Coulomb excitation of $^{29}\text{Na}$ . Mapping the borders of the island of inversion. Physical Review C, 2014, 89, .	2.9	16
38	Electromagnetic properties of low-lying states in neutron-deficient Hg isotopes: Coulomb excitation of $^{182}\text{Hg}$ , $^{184}\text{Hg}$ , $^{186}\text{Hg}$ and $^{188}\text{Hg}$ . European Physical Journal A, 2019, 55, 1.	2.5	13
39	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. Physical Review C, 2019, 99, .	2.9	13
40	Characterization of Supersonic Gas Jets for High-Resolution Laser Ionization Spectroscopy of Heavy Elements. Physical Review X, 2018, 8, .	8.9	12
41	The SPEDE spectrometer. European Physical Journal A, 2018, 54, 1.	2.5	11
42	Shape coexistence in neutron-deficient $^{188}\text{Hg}$ investigated via lifetime measurements. Physical Review C, 2020, 102, .	2.9	11
43	Half-life of the $15/2^+$ state of $^{135}\text{La}$ : A test of seniority relations. Physical Review C, 2017, 95, .	2.9	10
44	Lifetimes and shape-coexisting states of $^{99}\text{Zr}$ . Physical Review C, 2019, 100, .	2.9	10
45	Laser-assisted decay spectroscopy for the ground states of $^{180}\text{Au}$ and $^{182}\text{Au}$ . Physical Review C, 2020, 102, .	2.9	10
46	Charge radii, moments, and masses of mercury isotopes across the $^{126}\text{Hg}$ shell closure. Physical Review C, 2021, 104, .	2.9	10
47	Addendum: The observation of vibrating pear-shapes in radon nuclei. Nature Communications, 2020, 11, 3560.	12.8	9
48	Collectivity in the light radon nuclei measured directly via Coulomb excitation. Physical Review C, 2015, 91, .	2.9	8
49	Collective $2^+ \otimes 1^-$ excitations in $^{206}\text{Po}$ and $^{210}\text{Rn}$ . European Physical Journal A, 2016, 52, 1.	2.5	8
50	Fast-timing study of the $1^-$ -forbidden $1^-$ in $^{13}\text{C}$ . Physical Review C, 2016, 93, .	2.9	8
51	Laser-assisted decay spectroscopy and mass spectrometry of $^{178}\text{Au}$ . Physical Review C, 2020, 102, .	2.9	8
52	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
53	$^2$ -delayed fission of isomers in $^{188}\text{Bi}$ . Physical Review C, 2020, 102, .	2.9	7
54	Laser-assisted nuclear decay spectroscopy of $^{176}\text{Au}$ and $^{177}\text{Au}$ . Physical Review C, 2021, 104, .	2.9	7

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55	Coulomb excitation of $^{222}\text{Rn}$ . Physical Review C, 2022, 105, .	2.9	7
56	Testing refined shell-model interactions in the sd shell: Coulomb excitation of $^{26}\text{Na}$ . Physical Review C, 2015, 91, .	2.9	6
57	Population of lead isotopes in binary reactions using a $^{94}\text{Rb}$ radioactive beam. Physical Review C, 2020, 102, .	2.9	6
58	Coulomb excitation of re-accelerated $^{208}\text{Rn}$ and $^{206}\text{Po}$ beams. EPJ Web of Conferences, 2013, 63, 01009.	0.3	5
59	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
60	$\hat{I}^{\pm}$ -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. Physical Review C, 2019, 100, .	2.9	5
61	Fine structure in the $\hat{I}^{\pm}$ decay of $^{218}\text{At}$ . Physical Review C, 2019, 99, .	2.9	5
62	Structure of high-lying levels populated in the $^{96}\text{Y} \hat{I}^{\pm} \rightarrow ^{96}\text{Zr} \hat{I}^2$ decay. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 820, 136569.	4.1	5
63	$^{221}\text{Ac}$ and $^{225}\text{Pa}$ from $^{225}\text{Ac}$ . Physical Review C, 2020, 102, .	2.9	5
64	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
65	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
66	Decay studies of the long-lived states in $^{186}\text{Tl}$ . Physical Review C, 2020, 102, .	2.9	3
67	Determination of the $B(E3, 0^+ \rightarrow \hat{I}^3 \hat{I}^{\pm})$ -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
68	Shapes and Collectivity in Neutron Deficient Even-Mass $^{188-198}\text{Pb}$ Isotopes. , 2015, , .		2
69	$\hat{I}^{\pm}$ -decay branching ratio of $^{180}\text{Pt}$ . Physical Review C, 2020, 101, .	2.9	2
70	Dealing with contaminants in Coulomb excitation of radioactive beams. Journal of Physics: Conference Series, 2020, 1643, 012146.	0.4	2
71	Search for Isovector Valence-Shell Excitations in $^{140}\text{Nd}$ and $^{142}\text{Sm}$ via Coulomb excitation reactions of radioactive ion beams. EPJ Web of Conferences, 2018, 194, 03003.	0.3	1
72	Study of the neutron-rich region in the vicinity of $^{208}\text{Pb}$ via multinucleon transfer reactions. EPJ Web of Conferences, 2019, 223, 01012.	0.3	1

#	ARTICLE	IF	CITATIONS
73	Restoring the valence-shell stabilization in Nd140. Physical Review C, 2020, 102, .	2.9	1
74	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
75	$\beta$ Decay as a New Probe for the Low-energy E1 Strength. Acta Physica Polonica B, 2017, 48, 547.	0.8	1
76	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
77	Publisher's Note: Half-life of the $15/2^+$ state of $^{1135}\text{Ba}$ : A test of E2 seniority relations [Phys. Rev. C 95, 021302(R) (2017)]. Physical Review C, 2017, 95, .	2.9	0
78	Coulomb Excitation of Proton-rich $N = 80$ Isotones at HIE-ISOLDE. Journal of Physics: Conference Series, 2020, 1555, 012027.	0.4	0
79	Coulomb Excitation of $^{142}\text{Xe}$ . Acta Physica Polonica B, 2018, 49, 529.	0.8	0
80	Producing gold at ISOLDE-CERN. Nuclear Instruments & Methods in Physics Research B, 2022, 513, 26-32.	1.4	0