

# Tohru Motobayashi

## List of Publications by Year in descending order

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82  
papers

5,601  
citations

94433

37  
h-index

106344

65  
g-index

83  
all docs

83  
docs citations

83  
times ranked

2437  
citing authors

#	ARTICLE	IF	CITATIONS
1	Large deformation of the very neutron-rich nucleus $^{32}\text{Mg}$ from intermediate-energy Coulomb excitation. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1995, 346, 9-14.	4.1	584
2	Solar fusion cross sections. II. The $\langle \sigma v \rangle$ chain and CNO cycles. <i>Reviews of Modern Physics</i> , 2011, 83, 195-245.	45.6	574
3	Evidence for a new nuclear "magic number" from the level structure of $^{54}\text{Ca}$ . <i>Nature</i> , 2013, 502, 207-210.	27.8	308
4	Observation of Strong Low-Lying E1 Strength in the Two-Neutron Halo Nucleus $^{11}\text{Li}$ . <i>Physical Review Letters</i> , 2006, 96, 252502.	7.8	253
5	Coulomb Dissociation of $^8\text{B}$ and the $^7\text{Be}(p, \hat{1}^3)^8\text{B}$ Reaction at Low Energies. <i>Physical Review Letters</i> , 1994, 73, 2680-2683.	7.8	223
6	Observation of a Large Reaction Cross Section in the Drip-Line Nucleus $^{22}\text{C}$ . <i>Physical Review Letters</i> , 2010, 104, 062701.	7.8	198
7	Halo Structure of the Island of Inversion Nucleus $^{31}\text{Ne}$ . <i>Physical Review Letters</i> , 2009, 103, 262501.	7.8	182
8	Low-lying intruder $1\hat{1}^-$ state in $^{12}\text{Be}$ and the melting of the N=8 shell closure. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2000, 491, 8-14.	4.1	161
9	Identification of 45 New Neutron-Rich Isotopes Produced by In-Flight Fission of a $^{238}\text{U}$ Beam at 345 MeV/nucleon. <i>Journal of the Physical Society of Japan</i> , 2010, 79, 073201.	1.6	160
10	The first excited state of $^{30}\text{Ne}$ studied by proton inelastic scattering in reversed kinematics. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003, 566, 84-89.	4.1	145
11	DALI2: A NaI(Tl) detector array for measurements of $\hat{1}^3$ rays from fast nuclei. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2014, 763, 596-603.	1.6	140
12	Large collectivity of $^{34}\text{Mg}$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2001, 522, 227-232.	4.1	130
13	$^{78}\text{Ni}$ revealed as a doubly magic stronghold against nuclear deformation. <i>Nature</i> , 2019, 569, 53-58.	27.8	120
14	Isomeric $0^+$ state in $^{12}\text{Be}$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003, 560, 31-36.	4.1	113
15	SAMURAI spectrometer for RI beam experiments. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2013, 317, 294-304.	1.4	111
16	Deformation of $^{34}\text{Mg}$ studied via in-beam $\hat{1}^3$ -ray spectroscopy using radioactive-ion projectile fragmentation. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2001, 499, 233-237.	4.1	110
17	Determination of the astrophysical $^{13}\text{N}(p, \hat{1}^3)^{14}\text{O}$ cross section through the Coulomb dissociation method. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1991, 264, 259-263.	4.1	104
18	Identification of New Isotopes $^{125}\text{Pd}$ and $^{126}\text{Pd}$ Produced by In-Flight Fission of 345 MeV/nucleon $^{238}\text{U}$ : First Results from the RIKEN RI Beam Factory. <i>Journal of the Physical Society of Japan</i> , 2008, 77, 083201.	1.6	104

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19	Anomalous Hindrance of the $E2$ Strength in $^{16}\text{O}$ . Physical Review Letters, 2004, 92, 062501.	7.8	102
20	Experimental determination of the $E2$ component in the Coulomb dissociation of $^8\text{B}$ . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1997, 391, 261-266.	4.1	94
21	Well Developed Deformation in $^{28}\text{Ne}$ . Physical Review Letters, 2012, 109, 182501.	7.8	94
22	Nucleus $^{26}\text{O}$ . Physical Review Letters, 2016, 116, 102503.	7.8	94
23	Barely Unbound System beyond the Drip Line. Physical Review Letters, 2012, 109, 182501.	7.8	92
24	Spherical Shell Closure in $^{16}\text{O}$ . Physical Review Letters, 2012, 109, 182501.	7.8	92
25	In-Beam $\gamma$ -Ray Spectroscopy of $^{34}\text{Mg}$ . Physical Review Letters, 2009, 103, 032501.	7.8	91
26	Spectroscopy of $^{32}\text{Ne}$ and the $\beta$ -Decay of $^{32}\text{Ne}$ . Physical Review Letters, 2009, 103, 032501.	7.8	91
27	New neutron-rich isotopes, $^{34}\text{Ne}$ , $^{37}\text{Na}$ and $^{43}\text{Si}$ , produced by fragmentation of a 64 A MeV $^{48}\text{Ca}$ beam. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 542, 49-54.	4.1	89
28	Liquid hydrogen and helium targets for radioisotope beams at RIKEN. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 555, 1-5.	1.6	83
29	Spectroscopic Study of Neutron Shell Closures via Nucleon Transfer in the Near-Drip Line Nucleus $^{23}\text{O}$ . Physical Review Letters, 2007, 98, 102502.	7.8	81
30	Further measurement of the $7\text{Be}(p, \hat{1}^3)8\text{B}$ cross section at low energies with the coulomb dissociation of $^8\text{B}$ . European Physical Journal A, 1998, 3, 213-215.	2.5	73
31	Low-lying intruder state of the unbound nucleus $^{13}\text{Be}$ . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2010, 690, 245-249.	4.1	72
32	Lifetime measurements of first excited states in $^{16}\text{O}$ . Physical Review C, 2008, 78, .	2.9	68
33	Decoupling of valence neutrons from the core in $^{16}\text{C}$ . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2004, 586, 34-40.	4.1	67
34	Quadrupole collectivity of $^{28}\text{Ne}$ and the boundary of the island of inversion. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 620, 118-124.	4.1	57
35	Intermediate-energy Coulomb excitation of $^{104}\text{Sn}$ . Physical Review Letters, 2009, 103, 032501.	2.9	50
36	Moderate $^{104}\text{Sn}$ . Physical Review Letters, 2009, 103, 032501.	2.9	49
37	Low-lying states in $^{32}\text{Mg}$ . Physical Review C, 2009, 79, .	2.9	49
38	Low-lying states in $^{32}\text{Mg}$ studied by proton inelastic scattering. Physical Review C, 2009, 79, .	2.9	49
39	Neutron-dominant quadrupole collective motion in $^{16}\text{C}$ . Physical Review C, 2006, 73, .	2.9	48

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37	Proton inelastic scattering studies at the borders of the "island of inversion": The $^{30}\text{Na}$ , $^{31}\text{Mg}$ and $^{33,34}\text{Mg}$ case. <i>Physical Review C</i> , 2006, 73, .	2.9	45
38	Proton single-particle states in the neutron-rich $^{23}\text{F}$ nucleus. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2006, 638, 146-152.	4.1	33
39	Mapping the deformation in the "island of inversion": Inelastic scattering of $^{30}\text{Ne}$ and $^{36}\text{Mg}$ at intermediate energies. <i>Physical Review C</i> , 2016, 93, .	2.9	28
40	Study of the $^{7}\text{Be}(p, \hat{1}^3)^{8}\text{B}$ Reaction with the Coulomb Dissociation Method. <i>Journal of the Physical Society of Japan</i> , 1996, 65, 1256-1263.	1.6	28
41	Research with fast radioactive isotope beams at RIKEN. <i>Progress of Theoretical and Experimental Physics</i> , 2012, 2012, .	6.6	24
42	Quadrupole collectivity in island-of-inversion nuclei $^{28,30}\text{Ne}$ and $^{34,36}\text{Mg}$ . <i>Physical Review C</i> , 2014, 89, .	2.9	24
43	Observation of isoscalar and isovector dipole excitations in neutron-rich $^{20}\text{O}$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2017, 768, 387-392.	4.1	24
44	Hindered Proton Collectivity in $^{12}\text{C}$ : Possible Magic Number at $Z=16$ . <i>Physical Review Letters</i> , 2012, 108, 222501.	7.8	23
45	Collectivity evolution in the neutron-rich Pd isotopes toward the $N=82$ shell closure. <i>Physical Review C</i> , 2013, 88, .	2.9	23
46	Indirect measurements of the solar-neutrino production reaction $^{7}\text{Be}(p)^{8}\text{B}$ . <i>Nuclear Physics A</i> , 2001, 693, 258-268.	1.5	20
47	Low-lying proton intruder state in $^{13}\text{B}$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2008, 666, 311-314.	4.1	20
48	World new facilities for radioactive isotope beams. <i>EPJ Web of Conferences</i> , 2014, 66, 01013.	0.3	18
49	Spectroscopy of strongly deformed $^{32}\text{Ne}$ by proton knockout reactions. <i>Physical Review C</i> , 2019, 99, .	2.9	17
50	Inelastic scattering studies of $^{16}\text{C}$ reexamined. <i>Physical Review C</i> , 2008, 78, .	2.9	16
51	Low-lying dipole response in the unstable $^{70}\text{Ni}$ nucleus. <i>Physical Review C</i> , 2018, 98, .	2.9	16
52	RI beam factory project at RIKEN. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2003, 204, 736-738.	1.4	15
53	New $\hat{1}^{\pm}$ -decaying neutron-deficient isotope $^{196}\text{Rn}$ . <i>Zeitschrift für Physik A</i> , 1997, 357, 1-2.	0.9	14
54	In-beam $\hat{1}^3$ -ray spectroscopy of $^{136}\text{Te}$ at relativistic energies. <i>Physical Review C</i> , 2019, 99, .	2.9	14

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55	The $\hat{I}_{\pm}$ -decay energies and half-lives of $^{195}\text{g,mAt}$ and $^{199}\text{Fr}$ . <i>European Physical Journal A</i> , 1999, 5, 123-125.	2.5	13
56	Resonance states in $^{27}\text{P}$ using Coulomb dissociation and their effect on the stellar reaction $^{26}\text{Si}(p, \hat{I}^3) \hat{A} \in \% ^{27}\text{P}$ . <i>Physical Review C</i> , 2011, 84, .	2.9	13
57	Relativistic Coulomb excitation in $^{32}\text{Mg}$ near 200 MeV/nucleon with a thick target. <i>Physical Review C</i> , 2015, 92, .	2.9	12
58	Study of the Stellar $^{22}\text{Mg}(p, \hat{I}^3)^{23}\text{Al}$ Reaction using the Coulomb-Dissociation Method. <i>Nuclear Physics A</i> , 2004, 734, E77-E79.	1.5	9
59	Response of Barium-Fluoride Plastic Scintillator to Light Particles and Particle Identification. <i>IEEE Transactions on Nuclear Science</i> , 1987, 34, 438-441.	2.0	7
60	Spectroscopy of nuclei around $N = 20$ with direct reactions. <i>European Physical Journal A</i> , 2002, 15, 99-103.	2.5	6
61	Spectroscopy of $^{33}\text{Mg}$ with knockout reactions. <i>Physical Review C</i> , 2021, 103, .	2.9	6
62	Progress in nuclear astrophysics of east and southeast Asia. <i>AAPPS Bulletin</i> , 2021, 31, 1.	6.1	5
63	Inelastic scattering on $^{12}\text{Be}$ and disappearance of the $N = 8$ magic number. <i>European Physical Journal A</i> , 2002, 13, 55-58.	2.5	3
64	Testing of the RIKEN-ATOMKI CsI(Tl) array in the study of $^{22}$ , $^{23}\text{O}$ nuclear structure. <i>European Physical Journal A</i> , 2006, 27, 321-324.	2.5	3
65	Invariant-Mass Spectroscopy of Extremely Neutron-Rich Nuclei with SAMURAI at RIBF. , 2015, , .		3
66	Ten Years of the Asian Nuclear Physics Association (ANPhA) and Major Accelerator Facilities for Nuclear Physics in the Asia Pacific Region. <i>Nuclear Physics News</i> , 2020, 30, 3-45.	0.4	2
67	MOLECULAR STATES IN NEUTRON-RICH BERYLLIUM ISOTOPES. , 2002, , .		1
68	Heavy element synthesis by $(\text{HI}, \hat{I}_{\pm}\text{xn})$ reactions. <i>AIP Conference Proceedings</i> , 1992, , .	0.4	0
69	Nuclear astrophysics with intermediate-energy RI beams. , 1998, , .		0
70	Coulomb dissociation of. , 1998, , .		0
71	Experimental Studies of Nuclear Astrophysics with Fast RI beams. <i>Journal of Nuclear Science and Technology</i> , 2002, 39, 558-561.	1.3	0
72	Coulomb dissociation studies for reactions in steady and explosive hydrogen burning. <i>European Physical Journal A</i> , 2002, 13, 207-212.	2.5	0

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73	Study of Weakly Bound Nuclei at RIKEN RIBF. Few-Body Systems, 2016, 57, 337-341.	1.5	0
74	Coulomb dissociation another "Trojan Horse" EPL Web of Conferences, 2017, 165, 02006.	0.3	0
75	DETERMINATION OF THE ASTROPHYSICAL $S_{17}$ AND $S_{18}$ FROM ${}^7\text{Be}(\text{d}, \text{n}){}^8\text{B}$ AND ${}^8\text{B}(\text{d}, \text{n}){}^9\text{C}$ CROSS-SECTIONS., 2001, , .		0
76	NUCLEAR REACTIONS IN THE SUN (EXPERIMENT). , 2001, , .		0
77	INDIRECT MEASUREMENTS OF THE ${}^7\text{Be}(\text{p}, \hat{1}^3){}^8\text{B}$ REACTION. , 2002, , .		0
78	RECENT STATUS OF ASTROPHYSICAL $S_{17}$ . , 2002, , .		0
79	STUDIES OF COULOMB EXCITATION AND COULOMB DISSOCIATION FOR NUCLEAR ASTROPHYSICS. , 2003, , .		0
80	Study of $\hat{1}^{\pm}$ Decays in the $40\text{Ar}+232\text{Th}$ Reaction Using the RIKEN Gas-Filled Separator I-General. , 1995, , .		0
81	COULOMB DISSOCIATION EXPERIMENTS OF ASTROPHYSICAL INTEREST. , 1995, , .		0
82	Breakup of ${}^{16}\text{O}$ on the way to the astrophysical problem. , 1995, , .		0