

Xavier Roca-Maza

List of Publications by Year in descending order

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Version: 2024-02-01

84
papers

3,654
citations

270111

25
h-index

145109

60
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86
all docs

86
docs citations

86
times ranked

1581
citing authors

#	ARTICLE	IF	CITATIONS
1	Toward <i>ab initio</i> charge symmetry breaking in nuclear energy density functionals. Physical Review C, 2022, 105, .	1.1	8
2	Complete solution to the inverse Kohn-Sham problem: From the density to the energy. Physical Review C, 2022, 105, .	1.1	0
3	Evidence Against Nuclear Polarization as Source of Fine-Structure Anomalies in Muonic Atoms. Physical Review Letters, 2022, 128, .	2.9	10
4	Isospin Symmetry Breaking Effects on the Mass-Radius Relation of a Neutron Star. Symmetry, 2021, 13, 144.	1.1	4
5	Extended Lipkin-Meshkov-Glick Hamiltonian. Journal of Physics G: Nuclear and Particle Physics, 2021, 48, 05LT01.	1.4	1
6	Beam-normal single-spin asymmetry in elastic scattering of electrons from a spin-0 nucleus. Physical Review C, 2021, 103, .	1.1	6
7	Nuclear energy density functionals grounded in <i>ab initio</i> calculations. Physical Review C, 2021, 104, .	1.1	16
8	Second and fourth moments of the charge density and neutron-skin thickness of atomic nuclei. Physical Review C, 2021, 104, .	1.1	10
9	Information Content of the Parity-Violating Asymmetry in P_b $\frac{d\sigma}{d\Omega} \propto \frac{1}{2} \left(1 + \frac{1}{2} \frac{P_b}{\sigma} \right)$ Physical Review Letters, 2021, 127, 232501.	2.9	70
10	High precision 5 MeV Mott polarimeter. Physical Review C, 2020, 102, .	1.1	12
11	Weak charge and weak radius of C $C = 12$ Physical Review C, 2020, 102, .	1.1	5
12	Evolution of the dipole polarizability in the stable tin isotope chain. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 810, 135804.	1.5	17
13	Isobaric analog state energy in deformed nuclei: A toy model. Physical Review C, 2020, 102, .	1.1	1
14	E_1 moments from a coherent set of measured photoneutron cross sections. Physical Review C, 2020, 102, .	1.1	8
15	Effects of finite nucleon size, vacuum polarization, and electromagnetic spin-orbit interaction on nuclear binding energies and radii in spherical nuclei. Physical Review C, 2020, 101, .	1.1	9
16	First step in the nuclear inverse Kohn-Sham problem: From densities to potentials. Physical Review C, 2020, 101, .	1.1	8
17	Double charge-exchange phonon states. Physical Review C, 2020, 101, .	1.1	4
18	Particle-vibration coupling for giant resonances beyond the diagonal approximation. Physical Review C, 2020, 101, .	1.1	12

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19	Nuclear Symmetry Energy and the Breaking of the Isospin Symmetry: How Do They Reconcile with Each Other?. , 2020, , .		0
20	Interplay between low-lying isoscalar and isovector dipole modes: A comparative analysis between semiclassical and quantum approaches. Physical Review C, 2019, 99, .	1.1	16
21	Harmonic Potential Theorem: Extension to Spin-, Velocity-, and Density-Dependent Interactions. Physical Review Letters, 2019, 123, 112501.	2.9	0
22	Skyrme functional with tensor terms from <i>ab initio</i> calculations of neutron-proton drops. Physical Review C, 2019, 99, .	1.1	26
23	Coulomb exchange functional with generalized gradient approximation for self-consistent Skyrme Hartree-Fock calculations. Physical Review C, 2019, 99, .	1.1	11
24	Coulomb Energy Density Functionals for Nuclear Systems: Recent Studies of Coulomb Exchange and Correlation Functionals. EPJ Web of Conferences, 2019, 223, 01044.	0.1	0
25	Evolution of nuclear spin-orbit splittings with Skyrme functional SAMi-T. EPJ Web of Conferences, 2019, 223, 01059.	0.1	0
26	Collective excitations involving spin and isospin degrees of freedom. European Physical Journal A, 2019, 55, 1.	1.0	5
27	Skyrme Functional with Tensor Terms from <i>ab initio</i> Calculations: Results for the Spin-Orbit Splittings. Acta Physica Polonica B, Proceedings Supplement, 2019, 12, 699.	0.0	0
28	Nuclear equation of state from ground and collective excited state properties of nuclei. Progress in Particle and Nuclear Physics, 2018, 101, 96-176.	5.6	155
29	The nuclear symmetry energy and the breaking of the isospin symmetry: how do they reconcile with each other?. EPJ Web of Conferences, 2018, 194, 01002.	0.1	6
30	Nuclear Symmetry Energy and the Breaking of the Isospin Symmetry: How Do They Reconcile with Each Other?. Physical Review Letters, 2018, 120, 202501.	2.9	35
31	Towards a Universal Nuclear Structure Model. , 2018, , 243-252.		0
32	Towards a self-consistent dynamical nuclear model. Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 044001.	1.4	22
33	Theoretical calculations for precision polarimetry based on Mott scattering. Europhysics Letters, 2017, 120, 33002.	0.7	12
34	Towards the improvement of spin-isospin properties in nuclear energy density functionals. Journal of Physics: Conference Series, 2016, 724, 012041.	0.3	0
35	Second-order equation of state with the Skyrme interaction: Cutoff and dimensional regularization with the inclusion of rearrangement terms. Physical Review C, 2016, 94, .	1.1	15
36	Model dependence of the neutron-skin thickness on the symmetry energy. Physical Review C, 2016, 93, .	1.1	34

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37	Fully self-consistent study of charge-exchange resonances and the impact on the symmetry energy parameters. <i>Physical Review C</i> , 2016, 94, .	1.1	20
38	Constraints on the neutron skin and symmetry energy from the anti-analog giant dipole resonance in ^{208}Pb . <i>Physical Review C</i> , 2015, 92, .	1.1	19
39	Outer crust of a cold non-accreting magnetar. <i>Physical Review C</i> , 2015, 92, .	1.1	20
40	Neutron skin thickness from the measured electric dipole polarizability in ^{68}Ni and ^{120}Sn . <i>Physical Review C</i> , 2015, 92, .	1.1	175
41	A new Skyrme energy density functional for a better description of spin-isospin resonances. <i>AIP Conference Proceedings</i> , 2015, .	0.3	0
42	Covariance analysis for energy density functionals and instabilities. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2015, 42, 034033.	1.4	34
43	The Nuclear Symmetry Energy and Other Isovector Observables from the Point of View of Nuclear Structure. <i>Acta Physica Polonica B</i> , 2015, 46, 395.	0.3	2
44	The Determination of the Bulk Symmetry Incompressibility from the Isoscalar Giant Monopole Resonance Revisited. <i>Acta Physica Polonica B, Proceedings Supplement</i> , 2015, 8, 707.	0.0	3
45	Nuclear charge-exchange excitations in localized covariant density functional theory. <i>EPJ Web of Conferences</i> , 2014, 66, 02064.	0.1	1
46	Nuclear Symmetry Energy: constraints from Giant Quadrupole Resonances and Parity Violating Electron Scattering. <i>EPJ Web of Conferences</i> , 2014, 66, 02092.	0.1	0
47	Density dependence of the nuclear symmetry energy from measurements of neutron radii in nuclei. , 2014, .		2
48	Regularization of zero-range effective interactions in finite nuclei. <i>Physical Review C</i> , 2014, 90, .	1.1	10
49	Progress in nuclear structure beyond the mean-field approximation. <i>Physica Scripta</i> , 2014, 89, 054006.	1.2	1
50	Density dependence of the symmetry energy from neutron skin thickness in finite nuclei. <i>European Physical Journal A</i> , 2014, 50, 1.	1.0	77
51	Influence of the single-particle structure on the nuclear surface and the neutron skin. <i>Physical Review C</i> , 2014, 89, .	1.1	19
52	A microscopic model beyond mean-field: from giant resonances properties to the fit of new effective interactions. <i>EPJ Web of Conferences</i> , 2014, 66, 02015.	0.1	0
53	A microscopic model beyond mean-field: from giant resonance properties to the fit of new effective interactions. <i>Journal of Physics: Conference Series</i> , 2014, 533, 012027.	0.3	0
54	Information content of the weak-charge form factor. <i>Physical Review C</i> , 2013, 88, .	1.1	43

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55	Giant quadrupole resonances in ^{208}Pb , the nuclear symmetry energy, and the neutron skin thickness. Physical Review C, 2013, 87, .	1.1	113
56	Electron scattering in isotonic chains as a probe of the proton shell structure of unstable nuclei. Physical Review C, 2013, 87, .	1.1	22
57	Electric dipole polarizability in ^{208}Pb : Insights from the droplet model. Physical Review C, 2013, 88, .	1.1	146
58	Low-lying dipole response in stable and unstable nuclei. Physica Scripta, 2013, T154, 014020.	1.2	0
59	New Skyrme energy density functional for a better description of the Gamowâ€‘Teller resonance. Physica Scripta, 2013, T154, 014011.	1.2	5
60	Title is missing!. Acta Physica Polonica B, 2012, 43, 209.	0.3	12
61	Density dependence of the symmetry energy from neutron skin thickness in finite nuclei. , 2012, , .		8
62	Local covariant density functional constrained by the relativistic Hartree-Fock theory. , 2012, , .		1
63	Sensitivity of the electric dipole polarizability to the neutron skin thickness in ^{208}Pb . , 2012, , .		1
64	Low-lying dipole response: Isospin character and collectivity in ^{68}Ni , ^{132}Sn , and	1.1	79
65	New Skyrme interaction with improved spin-isospin properties. Physical Review C, 2012, 86, .	1.1	112
66	Second-order equation of state with the full Skyrme interaction: Toward new effective interactions for beyond-mean-field models. Physical Review C, 2012, 85, .	1.1	23
67	Electric dipole polarizability and the neutron skin. Physical Review C, 2012, 85, .	1.1	198
68	Localized form of Fock terms in nuclear covariant density functional theory. Physical Review C, 2012, 86, .	1.1	33
69	NEUTRON SKIN THICKNESS IN NEUTRON-RICH NUCLEI: BULK AND SURFACE CONTRIBUTIONS AND SHELL EFFECTS. International Journal of Modern Physics E, 2012, 21, 1250029.	0.4	4
70	The pygmy dipole strength, the neutron radius of ^{208}Pb and the symmetry energy. Journal of Physics: Conference Series, 2012, 342, 012009.	0.3	0
71	A beyond-mean-field example with zeroâ€‘range effective interactions in infinite nuclear matter. EPJ Web of Conferences, 2012, 38, 06002.	0.1	0
72	Microscopic calculations beyond mean-field with zero-range effective interactions. EPJ Web of Conferences, 2012, 38, 04005.	0.1	0

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73	Constraints on the symmetry energy and neutron skins from experiments and theory. Physical Review C, 2012, 86, .	1.1	566
74	Neutron Skin of ^{208}Pb , Nuclear Symmetry Energy, and the Parity Radius Experiment. Physical Review Letters, 2011, 106, 252501.	2.9	310
75	Study of the neutron skin thickness of ^{208}Pb in mean field models. Journal of Physics: Conference Series, 2011, 321, 012052.	0.3	1
76	Relativistic mean-field interaction with density-dependent meson-nucleon vertices based on microscopical calculations. Physical Review C, 2011, 84, .	1.1	157
77	Garvey-Kelson relations for nuclear charge radii. European Physical Journal A, 2010, 46, 379-386.	1.0	31
78	The influence of the symmetry energy on the giant monopole resonance of neutron-rich nuclei analyzed in Thomas-Fermi theory. Journal of Physics G: Nuclear and Particle Physics, 2010, 37, 075107.	1.4	15
79	Analysis of bulk and surface contributions in the neutron skin of nuclei. Physical Review C, 2010, 81, .	1.1	76
80	Origin of the neutron skin thickness of ^{208}Pb in nuclear mean-field models. Physical Review C, 2010, 82, .	1.1	79
81	Neutron skin thickness in the droplet model with surface width dependence: Indications of softness of the nuclear symmetry energy. Physical Review C, 2009, 80, .	1.1	166
82	Nuclear Symmetry Energy Probed by Neutron Skin Thickness of Nuclei. Physical Review Letters, 2009, 102, 122502.	2.9	416
83	Theoretical study of elastic electron scattering off stable and exotic nuclei. Physical Review C, 2008, 78, .	1.1	53
84	Impact of the symmetry energy on the outer crust of nonaccreting neutron stars. Physical Review C, 2008, 78, .	1.1	55