Rayner Roberto Rodriguez Guzman

List of Publications by Year
in descending order

53 papers	1,345 citations	361413 20 h-index	361022 35 g-index
53 all docs	53 docs citations	53 times ranked	868 citing authors

#	Article	IF	Citations
1	Mean field and beyond description of nuclear structure with the Gogny force: a review. Journal of Physics G: Nuclear and Particle Physics, 2019, 46, 013001.	3.6	129
2	Quadrupole collectivity in Nâ‰ˆ28 nuclei with the angular momentum projected generator coordinate method. Physical Review C, 2002, 65, .	2.9	105
3	Beyond mean field description of shape coexistence in neutron-deficientPbisotopes. Physical Review C, 2004, 69, .	2.9	86
4	Evidence for a Smooth Onset of Deformation in the Neutron-Rich Kr Isotopes. Physical Review Letters, 2012, 108, 062701.	7.8	69
5	Evolution of nuclear shapes in medium mass isotopes from a microscopic perspective. Physical Review C, 2008, 78, .	2.9	67
6	Structural evolution in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>â‰ˆ</mml:mo><mml:mn>100</m within the mapped interacting boson model based on the Gogny energy density functional. Physical Review C, 2016, 94, .	2.9	65
7	Microscopic description of quadrupole-octupole coupling in Sm and Gd isotopes with the Gogny energy density functional. Physical Review C, 2012, 86, .	2.9	52
8	Spectroscopy of quadrupole and octupole states in rare-earth nuclei from a Gogny force. Physical Review C, 2015, 92, .	2.9	47
9	Multireference symmetry-projected variational approaches for ground and excited states of the one-dimensional Hubbard model. Physical Review B, 2013, 87, .	3.2	44
10	Symmetry-projected wave functions in quantum Monte Carlo calculations. Physical Review B, 2014, 89, .	3.2	43
11	Symmetry-projected variational approach for ground and excited states of the two-dimensional Hubbard model. Physical Review B, 2012, 85, .	3.2	42
12	Shape dynamics in neutron-rich Kr isotopes: Coulomb excitation of 92Kr, 94Kr and 96Kr. Nuclear Physics A, 2013, 899, 1-28.	1.5	40
13	Octupole deformation properties of actinide isotopes within a mean-field approach. Journal of Physics G: Nuclear and Particle Physics, 2012, 39, 105103.	3.6	35
14	Structural evolution in germanium and selenium nuclei within the mapped interacting boson model based on the Gogny energy density functional. Physical Review C, 2017, 95, .	2.9	32
15	Shape coexistence in lead isotopes in the interacting boson model with a Gogny energy density functional. Physical Review C, 2012, 86, .	2.9	31
16	Excited electronic states from a variational approach based on symmetry-projected Hartreeâ€“Fock configurations. Journal of Chemical Physics, 2013, 139, 224110.	3.0	28
17	Shape of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Ar</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>44</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>: Onset of deformation in neutron-rich nuclei near<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Ca</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>48</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>	2.9	26
18	Microscopic description of fission in superheavy nuclei with the parametrization D1M$*$ of the Gogny energy density functional. European Physical Journal A, 2020, 56, 1.	2.5	26

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19	Precision mass measurements of neutron-rich Y, Nb, Mo, Tc, Ru, Rh, and Pd isotopes. European Physical Journal A, 2011, 47, 1.	2.5	22
20	Microscopic description of fission in odd-mass uranium and plutonium nuclei with the Gogny energy density functional. European Physical Journal A, 2017, 53, 1.	2.5	20
21	Evolution of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>E</mml:mi><mml:mn>2</mml:mn></mml:mrow></mml:r strength in deformed hafnium isotopes from new measurements on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">Hf</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>172</mml:mn></mml:mrow></mml:mmultiscripts><mml:mo>.</mml:mo><mml:mspace	2.9	19
22	Shape transitions in odd-mass Î³ -soft nuclei within the interacting boson-fermion model based on the Gogny energy density functional. Physical Review C, 2017, 96, .	2.9	19
23	Quality of the restricted variation after projection method with angular momentum projection. Physical Review C, 2005, 71, .	2.9	18
24	Quadrupole-octupole coupling and the onset of octupole deformation in actinides. Physical Review C, 2021, 103, .	2.9	17
25	Least action description of spontaneous fission in fermium and nobelium nuclei based on the Gogny energy density functional. Physical Review C, 2018, 98, .	2.9	16
26	Description of odd-mass nuclei within the interacting boson-fermion model based on the Gogny energy density functional. Physical Review C, 2017, 96, .	2.9	15
27	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>N</mml:mi></mml:math>-electron Slater determinants from nonunitary canonical transformations of fermion operators. Physical Review A, 2012, 86, .	2.5	14
28	Structure of krypton isotopes within the interacting boson model derived from the Gogny energy density functional. Physical Review C, 2017, 96, .	2.9	14
29	Microscopic description of quadrupole-octupole coupling in actinides with the Gogny-D1M energy density functional. Journal of Physics G: Nuclear and Particle Physics, 2021, 48, 015103.	3.6	14
30	Evolution of octupole deformation and collectivity in neutron-rich lanthanides. Physical Review C, 2021, 104, .	2.9	14
31	Microscopic description of fission in nobelium isotopes with the Gogny-D1M energy density functional. European Physical Journal A, 2016, 52, 1.	2.5	13
32	Lifetime measurements and shape coexistence in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Sr</mml:mi><mml:mprescripts /><mml:none /><mml:mn>97</mml:mn></mml:mmultiscripts></mml:math>. Physical Review C, 2019, 100, .	2.9	13
33	Structure of odd-odd Cs isotopes within the interacting boson-fermion-fermion model based on the Gogny-D1M energy density functional. Physical Review C, 2020, 101, .	2.9	13
34	Microscopic description of quadrupole-octupole coupling in neutron-rich actinides and superheavy nuclei with the Gogny-D1M energy density functional. Physical Review C, 2021, 103, .	2.9	13
35	Octupole correlations in light actinides from the interacting boson model based on the Gogny energy density functional. Physical Review C, 2020, 102, .	2.9	13
36	Î² decay of odd- A nuclei with the interacting boson-fermion model based on the Gogny energy density functional. Physical Review C, 2020, 101, .	2.9	12

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37	Î² decay of even- A nuclei within the interacting boson model with input based on nuclear density functional theory. Physical Review C, 2020, 101, .	2.9	12
38	Variational description of the ground state of the repulsive two-dimensional Hubbard model in terms of nonorthogonal symmetry-projected Slater determinants. Physical Review B, 2014, 90, .	3.2	11
39	Microscopic description of fission in neutron-rich radium isotopes with the Gogny energy density functional. European Physical Journal A, 2016, 52, 1.	2.5	11
40	Potential energy curves for Mo₂: multi-component symmetry-projected Hartreeâ€“Fock and beyond. Molecular Physics, 2014, 112, 1938-1946.	1.7	9
41	Prolate-to-oblate shape phase transitions in neutron-rich odd-mass nuclei. Physical Review C, 2018, 97, .	2.9	9
42	Spectroscopy of odd-odd nuclei within the interacting boson-fermion-fermion model based on the Gogny energy-density functional. Physical Review C, 2019, 99, .	2.9	8
43	Quadrupole-octupole coupling and the evolution of collectivity in neutron-deficient Xe, Ba, Ce, and Nd isotopes. Physical Review C, 2021, 104, .	2.9	8
44	Multireference symmetry-projected variational approximation for the ground state of the doped one-dimensional Hubbard model. Physical Review B, 2014, 89, .	3.2	7
45	Lifetime measurements to investigate <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î³</mml:mi></mml:math> softness and shape coexistence in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Mo</mml:mi><mml:mprescripts /><mml:none /><mml:mn>102</mml:mn></mml:mmultiscripts></mml:math>. Physical Review C, 2021, 104, .	2.9	6
46	Microscopic description of quadrupole collectivity in neutron-rich nuclei across the N = 126 shell closure. European Physical Journal A, 2015, 51, 1.	2.5	5
47	Quadrupole-octupole collectivity in the Xe, Ba, Ce and Nd isotopic chains described with mean field and beyond approaches. Journal of Physics G: Nuclear and Particle Physics, 2022, 49, 015101.	3.6	5
48	Description of neutron-rich odd-mass krypton isotopes within the interacting boson-fermion model based on the Gogny energy density functional. Physical Review C, 2018, 97, .	2.9	4
49	ON THE STABILITY OF PROJECTION AFTER VARIATION SOLUTIONS. International Journal of Modern Physics E, 2004, 13, 165-168.	1.0	2
50	Microscopic description of shape evolution in medium-mass nuclei. Journal of Physics: Conference Series, 2010, 205, 012024.	0.4	2
51	Theory and applications beyond mean field with effective forces. AIP Conference Proceedings, 2002, , .	0.4	0
52	Nuclear shape transitions in neutron-rich medium-mass nuclei. , 2012, , .		0
53	Microscopic description of the competition between spontaneous fission andÎ±-decay in neutron-rich Ra, U and Pu nuclei. Journal of Physics: Conference Series, 2017, 869, 012061.	0.4	0