

Sakir Ayik

List of Publications by Year in descending order

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57
papers

2,243
citations

279798

23
h-index

214800

47
g-index

59
all docs

59
docs citations

59
times ranked

458
citing authors

#	ARTICLE	IF	CITATIONS
1	On stochastic approaches of nuclear dynamics. Physics Reports, 1996, 275, 49-196.	25.6	403
2	Fluctuations of single-particle density in nuclear collisions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1988, 212, 269-272.	4.1	160
3	Transport theory of fluctuation phenomena in nuclear collisions. Nuclear Physics A, 1990, 513, 187-204.	1.5	149
4	Microscopic transport theory of heavy-ion collisions. Zeitschrift für Physik A, 1976, 277, 299-310.	1.4	132
5	A stochastic mean-field approach for nuclear dynamics. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 658, 174-179.	4.1	104
6	Mean-field theory and statistical treatment of residual interactions. Zeitschrift für Physik A, 1980, 298, 83-90.	1.4	84
7	Stochastic quantum dynamics beyond mean field. European Physical Journal A, 2014, 50, 1.	2.5	79
8	Microscopic Phase-Space Exploration Modeling of $U \rightarrow Fm$ Spontaneous Fission. Physical Review Letters, 2017, 118, 152501.	7.8	79
9	Nuclear collective vibrations in extended mean-field theory. Progress in Particle and Nuclear Physics, 2004, 52, 497-563.	14.4	73
10	One-body energy dissipation in fusion reactions from mean-field theory. Physical Review C, 2009, 79, .	2.9	73
11	Fluctuation and dissipation dynamics in fusion reactions from a stochastic mean-field approach. Physical Review C, 2009, 79, .	2.9	70
12	Mass dispersion in transfer reactions with a stochastic mean-field theory. Physical Review C, 2009, 80, .	2.9	60
13	Mechanical and Chemical Spinodal Instabilities in Finite Quantum Systems. Physical Review Letters, 2002, 88, 122701.	7.8	54
14	Quantal effects on growth of instabilities in nuclear matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 353, 417-421.	4.1	52
15	Quantal diffusion description of multinucleon transfers in heavy-ion collisions. Physical Review C, 2018, 97, .	2.9	43
16	Multinucleon transfer in central collisions of $U + U$ Physical Review C, 2017, 96, .	2.9	38
17	Stochastic semi-classical description of fusion at near-barrier energies. Physical Review C, 2010, 81, .	2.9	37
18	Quantum statistical effects on fusion dynamics of heavy ions. Physical Review C, 2005, 71, .	2.9	35

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19	Nucleon exchange mechanism in heavy-ion collisions at near-barrier energies. <i>Physical Review C</i> , 2011, 83, .	2.9	35
20	Quantum effect in the diffusion along a potential barrier: Comments on the synthesis of superheavy elements. <i>Physical Review C</i> , 2004, 69, .	2.9	34
21	Quantal diffusion approach for multinucleon transfers in Xe + Pb collisions. <i>Physical Review C</i> , 2019, 100, .	2.9	34
22	Symmetry breaking and fluctuations within stochastic mean-field dynamics: Importance of initial quantum fluctuations. <i>Physical Review C</i> , 2012, 85, .	2.9	25
23	Fluid dynamical approach to spinodal instabilities in finite nuclear systems. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1996, 383, 247-251.	4.1	24
24	Quantal corrections to mean-field dynamics including pairing. <i>Physical Review C</i> , 2013, 87, .	2.9	22
25	Nucleon exchange in heavy-ion collisions within a stochastic mean-field approach. <i>Physical Review C</i> , 2014, 90, .	2.9	22
26	Multinucleon exchange in quasifission reactions. <i>Physical Review C</i> , 2015, 92, .	2.9	22
27	Quantal diffusion approach for multinucleon transfer processes in the $\text{Ni}^{58} + \text{Ni}^{64}$ reactions: Toward the production of unknown neutron-rich nuclei. <i>Physical Review C</i> , 2020, 102, .	2.9	22
28	Collective response of nuclei: Comparison between experiments and extended mean-field calculations. <i>Physical Review C</i> , 2001, 63, .	2.9	21
29	Collisional damping of nuclear collective vibrations in a non-Markovian transport approach. <i>Physical Review C</i> , 1998, 58, 1594-1603.	2.9	20
30	Quantal description of nucleon exchange in a stochastic mean-field approach. <i>Physical Review C</i> , 2015, 91, .	2.9	20
31	Long-range correlations in Boltzmann-Langevin model. <i>Zeitschrift für Physik A</i> , 1994, 350, 45-49.	0.9	19
32	Heavy-isotope production in $\text{Xe}^{136} + \text{Pb}^{208}$ collisions at $E_{\text{c.m.}} = 514$ MeV. <i>Physical Review C</i> , 2019, 100, .	2.9	18
33	Quantal nucleon diffusion: Central collisions of symmetric nuclei. <i>Physical Review C</i> , 2016, 94, .	2.9	17
34	Multinucleon transfer in the $\text{Ni}^{58} + \text{Ni}^{60}$ reactions and $\text{Ni}^{58} + \text{Ni}^{64}$ reactions.	2.9	17
35	Nuclear response function in the Mori formalism. <i>Physical Review Letters</i> , 1986, 56, 38-41.	7.8	15
36	Quantal effects on spinodal instabilities in charge asymmetric nuclear matter. <i>Nuclear Physics A</i> , 2008, 812, 44-57.	1.5	14

#	ARTICLE	IF	CITATIONS
37	RPA instabilities in finite nuclei at low density. Nuclear Physics A, 1997, 617, 356-367.	1.5	13
38	Spinodal instabilities in nuclear matter in a stochastic relativistic mean-field approach. Physical Review C, 2009, 80, .	2.9	11
39	A simplified BBGKY hierarchy for correlated fermions from a stochastic mean-field approach. European Physical Journal A, 2016, 52, 1.	2.5	10
40	Kinetic-energy dissipation and fluctuations in strongly damped heavy-ion collisions within the stochastic mean-field approach. Physical Review C, 2020, 102, .	2.9	10
41	Quantal diffusion description of isotope production via the multinucleon transfer mechanism in<math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mmultiscripts><mml:mi>Ca</mml:mi><mml:mprescripts /><mml:none /><mml:mn>48</mml:mn></mml:mmultiscripts><mml:mo>+</mml:mo></mml:mrow><mml:mmultiscripts><mml:mi mathvariant="normal">U</mml:mi><mml:mprescripts /><mml:none /><mml:mn>238</mml:mn></mml:mm	2.9	8
42	Medium-modified interaction induced by fluctuations. Nuclear Physics A, 1995, 593, 233-246.	1.5	7
43	Investigations of instabilities in nuclear matter in stochastic relativistic models. Nuclear Physics A, 2011, 859, 73-86.	1.5	7
44	Stochastic one-body transport and coupling to mean-field fluctuations. Physical Review C, 2001, 64, .	2.9	6
45	Quantal description of instabilities in nuclear matter in a stochastic relativistic model. European Physical Journal A, 2011, 47, 1.	2.5	6
46	Merging of transport theory with the time-dependent Hartree-Fock approach: Multinucleon transfer in <math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="normal">U</mml:mi><mml:mo>+</mml:mo><mml:mi mathvariant="normal">U</mml:mi></mml:math> collisions. Physical Review C, 2020, 102, .	2.9	6
47	Analysis of Boltzmann-Langevin dynamics in nuclear matter. Zeitschrift für Physik A, 1996, 355, 407-413.	0.9	5
48	Extended TDHF with a coherent collision term. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 493, 47-53.	4.1	5
49	Investigations of spinodal dynamics in asymmetric nuclear matter within a stochastic relativistic model. European Physical Journal A, 2013, 49, 1.	2.5	5
50	Growth of spinodal instabilities in nuclear matter. Physical Review C, 2015, 91, .	2.9	5
51	Counting statistics in finite Fermi systems: Illustrations with the atomic nucleus. Physical Review C, 2020, 101, .	2.9	3
52	Analysis of Boltzmann-Langevin dynamics in nuclear matter. Zeitschrift für Physik A, 1996, 355, 407-413.	0.9	1
53	Collisional damping of giant monopole and quadrupole resonances. European Physical Journal A, 2001, 10, 289-294.	2.5	1
54	Quantum effects in the diffusion process to form a heavy nucleus in heavy-ion fusion reactions. AIP Conference Proceedings, 2006, , .	0.4	1

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55	Growth of spinodal instabilities in nuclear matter. II. Asymmetric matter. Physical Review C, 2015, 92, .	2.9	1
56	Quantum diffusion approach to the formation of a heavy compound nucleus by heavy-ion fusion reactions. AIP Conference Proceedings, 2007, , .	0.4	0
57	Stochastic Mean-Field Dynamics For Nuclear Collisions. , 2008, , .		0