Sanjay Reddy

List of Publications by Year
in descending order

99 papers	7,082 citations	50276 46 h-index	54911 84 g-index
100 all docs	100 docs citations	100 times ranked	2980 citing authors

#	Article	IF	Citations
1	Hybrid Stars that Masquerade as Neutron Stars. Astrophysical Journal, 2005, 629, 969-978.	4.5	530
2	Evolution of Protoâ€“Neutron Stars. Astrophysical Journal, 1999, 513, 780-804.	4.5	438
3	Maximum mass and radius of neutron stars, and the nuclear symmetry energy. Physical Review C, 2012, 85, .	2.9	305
4	Stringent constraints on neutron-star radii from multimessenger observations and nuclear theory. Nature Astronomy, 2020, 4, 625-632.	10.1	269
5	Neutrino interactions in hot and dense matter. Physical Review D, 1998, 58, .	4.7	261
6	Constraining the Speed of Sound inside Neutron Stars with Chiral Effective Field Theory Interactions and Observations. Astrophysical Journal, 2018, 860, 149.	4.5	250
7	Asymmetric Two-Component Fermion Systems in Strong Coupling. Physical Review Letters, 2005, 95, 060401.	7.8	246
8	Critical examination of constraints on the equation of state of dense matter obtained from GW170817. Physical Review C, 2018, 98, .	2.9	238
9	Minimal color-flavor-lockedâ€“nuclear interface. Physical Review D, 2001, 64, .	4.7	224
10	Neutrino opacities in nuclear matter. Nuclear Physics A, 2006, 777, 356-394.	1.5	191
11	Effects of strong and electromagnetic correlations on neutrino interactions in dense matter. Physical Review C, 1999, 59, 2888-2918.	2.9	188
12	Color-neutral superconducting quark matter. Physical Review D, 2002, 66, .	4.7	175
13	Quarkyonic Matter and Neutron Stars. Physical Review Letters, 2019, 122, 122701.	7.8	175
14	Compact stars with color superconducting quark matter. Physical Review D, 2003, 67, .	4.7	174
15	Dense Matter in Compact Stars: Theoretical Developments and Observational Constraints. Annual Review of Nuclear and Particle Science, 2006, 56, 327-374.	10.2	173
16	Medium modification of the charged-current neutrino opacity and its implications. Physical Review C, 2012, 86, .	2.9	158
17	Novel phases and transitions in color flavor locked matter. Physical Review D, 2002, 65, .	4.7	131
18	Protoneutron Star Cooling with Convection: The Effect of the Symmetry Energy. Physical Review Letters, 2012, 108, 061103.	7.8	117

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19	Extra dimensions, SN1987a, and nucleonâ€“nucleon scattering data. Nuclear Physics B, 2001, 595, 335-359.	2.5	104
20	Strange Star Surface: A Crust with Nuggets. Physical Review Letters, 2006, 96, 041101.	7.8	104
21	Neutrino and axion emissivities of neutron stars from nucleonâ€“nucleon scattering data. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2001, 499, 9-15.	4.1	103
22	The equation of state of neutron matter, symmetry energy and neutron star structure. European Physical Journal A, 2014, 50, 1.	2.5	102
23	Kaon condensation in proto-neutron star matter. Physical Review C, 2000, 62, .	2.9	85
24	Confronting gravitational-wave observations with modern nuclear physics constraints. European Physical Journal A, 2019, 55, 1.	2.5	83
25	The likelihood of GODs' existence: improving the SN 1987a constraint on the size of large compact dimensions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2001, 509, 1-9.	4.1	81
26	Dark matter thermalization in neutron stars. Physical Review D, 2013, 88, .	4.7	78
27	Stability of strange star crusts and strangelets. Physical Review D, 2006, 73, .	4.7	76
28	Forecasting Neutron Star Temperatures: Predictability and Variability. Physical Review Letters, 2013, 111, 241102.	7.8	76
29	Limiting masses and radii of neutron stars and their implications. Physical Review C, 2021, 103, .	2.9	76
30	Neutron Stars Exclude Light Dark Baryons. Physical Review Letters, 2018, 121, 061802.	7.8	75
31	Direct astrophysical tests of chiral effective field theory at supranuclear densities. Physical Review C, 2020, 102, .	2.9	73
32	Neutrino propagation in color superconducting quark matter. Physical Review D, 2000, 62, .	4.7	68
33	Superfluid Pairing Gap in Strong Coupling. Physical Review Letters, 2008, 100, 150403.	7.8	65
34	Superfluid Heat Conduction and the Cooling of Magnetized Neutron Stars. Physical Review Letters, 2009, 102, 091101.	7.8	61
35	Nucleon-nucleon bremsstrahlung of dark gauge bosons and revised supernova constraints. Physical Review C, 2016, 94, .	2.9	59
36	Dark halos around neutron stars and gravitational waves. Journal of Cosmology and Astroparticle Physics, 2019, 2019, 012-012.	5.4	59

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37	First order phase transitions in neutron star matter: droplets and coherent neutrino scattering. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 475, 1-8.	4.1	58
38	Nuclear theory and science of the facility for rare isotope beams. Modern Physics Letters A, 2014, 29, 1430010.	1.2	57
39	Constraints on axion-like particles and nucleon pairing in dense matter from the hot neutron star in HESS J1731-347. Physical Review C, 2018, 98, .	2.9	57
40	Low-energy collective excitations in the neutron star inner crust. Physical Review C, 2013, 87, .	2.9	56
41	Phase structure of two-flavor quark matter: Heterogeneous superconductors. Physical Review C, 2005, 71, .	2.9	55
42	Role of the electron mass in damping chiral plasma instability in Supernovae and neutron stars. Physical Review D, 2015, 91, .	4.7	54
43	Rapid Neutrino Cooling in the Neutron Star MXB 1659-29. Physical Review Letters, 2018, 120, 182701.	7.8	54
44	Neutrino rates in color flavor locked quark matter. Nuclear Physics A, 2003, 714, 337-351.	1.5	51
45	Lower limit on the heat capacity of the neutron star core. Physical Review C, 2017, 95, .	2.9	49
46	Charged current neutrino interactions in hot and dense matter. Physical Review C, 2017, 95, .	2.9	48
47	Bulk viscosity due to kaons in color-flavor-locked quark matter. Physical Review C, 2007, 75, .	2.9	43
48	Evolution of a Neutron Star from Its Birth to Old Age. Lecture Notes in Physics, 2001, , 364-423.	0.7	42
49	Neutrino scattering off pair-breaking and collective excitations in superfluid neutron matter and in color-flavor-locked quark matter. Physical Review C, 2004, 70, .	2.9	40
50	Superfluid Dynamics in Neutron Star Crusts. Progress of Theoretical Physics Supplement, 2010, 186, 9-16.	0.1	40
51	Enhanced Supernova Axion Emission and Its Implications. Physical Review Letters, 2021, 126, 071102.	7.8	40
52	Superfluid response and the neutrino emissivity of neutron matter. Physical Review C, 2009, 79, .	2.9	39
53	Pions in hot dense matter and their astrophysical implications. Physical Review C, 2020, 101, .	2.9	38
54	Observable signatures of enhanced axion emission from protoneutron stars. Physical Review D, 2021, 104, .	4.7	37

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55	First order kaon condensation in neutron stars: Finite size effects in the mixed phase. Physical Review C, 2001, 63, .	2.9	36
56	Magnetar oscillations pose challenges for strange stars. Monthly Notices of the Royal Astronomical Society: Letters, 2007, 379, L63-L66.	3.3	36
57	Late-time Cooling of Neutron Star Transients and the Physics of the Inner Crust. Astrophysical Journal, 2017, 839, 95.	4.5	35
58	Constraining the neutron-matter equation of state with gravitational waves. Physical Review D, 2019, 100, .	4.7	31
59	Low-energy theory for superfluid and solid matter and its application to the neutron star crust. Physical Review C, 2011, 84, .	2.9	29
60	Charged-current reactions in the supernova neutrino-sphere. Physical Review C, 2015, 91, .	2.9	29
61	Charged and Superconducting Vortices in Dense Quark Matter. Physical Review Letters, 2002, 88, 132302.	7.8	27
62	Neutrino Scattering in a Newly Born Neutron Star. Astrophysical Journal, 1997, 478, 689-700.	4.5	27
63	Goldstone modes in the neutron star core. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 735, 340-343.	4.1	26
64	Gravitational Waves from Compact Dark Objects in Neutron Stars. Physical Review Letters, 2019, 122, 071102.	7.8	21
65	Energy conservation and the chiral magnetic effect. Physical Review D, 2017, 96, .	4.7	20
66	Thermal conductivity and impurity scattering in the accreting neutron star crust. Physical Review C, 2016, 94, .	2.9	19
67	Search for compact dark matter objects in the solar system with LIGO data. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 800, 135072.	4.1	19
68	Strangelet dwarfs. Journal of Physics G: Nuclear and Particle Physics, 2012, 39, 065201.	3.6	18
69	Large and massive neutron stars: Implications for the sound speed within QCD of dense matter. Physical Review C, 2022, 105, .	2.9	18
70	Neutrino processes in theK0condensed phase of color flavor locked quark matter. Physical Review D, 2003, 68, .	4.7	16
71	Nuclear pasta in hot dense matter and its implications for neutrino scattering. Physical Review C, 2018, 97, .	2.9	16
72	Spin response and neutrino emissivity of dense neutron matter. Physical Review C, 2013, 87, .	2.9	13

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73	Dispersion and decay of collective modes in neutron star cores. Physical Review C, 2017, 96, .	2.9	11
74	Neutrino Signatures from Young Neutron Stars. , 2017, , 1605-1635.		11
75	Bridging the Gap by Squeezing Superfluid Matter. Physical Review Letters, 2012, 108, 111102.	7.8	10
76	Photons in dense nuclear matter: Random-phase approximation. Physical Review C, 2018, 97, .	2.9	9
77	Neutrino-nucleon scattering in the neutrino-sphere. Physical Review C, 2018, 98, .	2.9	9
78	Properties of Neutron Star Crust with Improved Nuclear Physics: Impact of Chiral EFT Interactions and Experimental Nuclear Masses. Few-Body Systems, 2021, 62, 1.	1.5	9
79	Mean-field analysis of pairing in asymmetric Fermi systems at finite temperature. Physical Review A, 2008, 78, .	2.5	8
80	QUARK MATTER IN NEUTRON STARS: AN APERÃ‡U. Modern Physics Letters A, 2006, 21, 1965-1979.	1.2	7
81	Electron-neutron scattering and transport properties of neutron stars. Physical Review C, 2015, 91, .	2.9	7
82	Neutrino scattering from hydrodynamic modes in hot and dense neutron matter. Physical Review C, 2014, 89, .	2.9	6
83	Properties of the neutron star crust: Quantifying and correlating uncertainties with improved nuclear physics. Physical Review C, 2022, 105, .	2.9	6
84	Quantum Monte Carlo calculations of the thermal conductivity of neutron star crusts. Physical Review C, 2015, 92, .	2.9	5
85	Constraining the properties of dense matter and neutron stars by combining nuclear physics and gravitational waves from GW170817. AIP Conference Proceedings, 2019, , .	0.4	5
86	Confronting a set of Skyrme and $$chi _{EFT}$$ predictions for the crust of neutron stars. European Physical Journal A, 2022, 58, 1.	2.5	5
87	Dark lepton superfluid in protoneutron stars. Physical Review D, 2022, 105, .	4.7	4
88	Neutrino interactions in dense stellar matter. European Physical Journal A, 2003, 17, 475-481.	2.5	1
89	Neutron stars, supernova and phases of dense quark matter. Journal of Physics G: Nuclear and Particle Physics, 2004, 30, S879-S885.	3.6	1
90	Strange crusts on strange stars. Journal of Physics G: Nuclear and Particle Physics, 2006, 32, S267-S274.	3.6	1

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91	MATTER AT EXTREME DENSITY AND ITS ROLE IN NEUTRON STARS AND SUPERNOVA. International Journal of Modern Physics B, 2006, 20, 2704-2713.	2.0	1
92	Neutrino Signatures from Young Neutron Stars. , 2016, , 1-31.		1
93	Thermal Evolution of Neutron Stars. Astrophysics and Space Science, 1998, 263, 291-294.	1.4	0
94	Cool Dense Matter and Neutron Star Phenomenology. Nuclear Physics A, 2007, 785, 24-35.	1.5	0
95	THE MICRO-PHYSICS OF NEUTRINO TRANSPORT AT EXTREME DENSITY. , 2004, , .		0
96	NEUTRINO PROCESSES IN HOT AND DENSE MATTER: CURRENT STATUS & OPEN ISSUES. , 2005, , .		0
97	New States of Matter in Polarized Cold Fermi Atoms. , 2006, , .		0
98	MATTER AT EXTREME DENSITY AND ITS ROLE IN NEUTRON STARS AND SUPERNOVA. , 2006, , .		0
99	Neutrinos from Protoneutron Stars: a Probe of Hot and Dense Matter. , 1996, , 237-245.		0