James M Lattimer

List of Publications by Year
in descending order

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153 papers	26,777 citations	8749 75 h-index	12933 131 g-index
156 all docs	156 docs citations	156 times ranked	6702 citing authors

#	Article	IF	Citations
1	Neutron Star Structure and the Equation of State. Astrophysical Journal, 2001, 550, 426-442.	1.6	1,290
2	A generalized equation of state for hot, dense matter. Nuclear Physics A, 1991, 535, 331-376.	0.6	1,119
3	Neutron star observations: Prognosis for equation of state constraints. Physics Reports, 2007, 442, 109-165.	10.3	1,097
4	The Physics of Neutron Stars. Science, 2004, 304, 536-542.	6.0	1,078
5	PSR J0030+0451 Mass and Radius from NICER Data and Implications for the Properties of Neutron Star Matter. Astrophysical Journal Letters, 2019, 887, L24.	3.0	978
6	A NICER View of PSR J0030+0451: Millisecond Pulsar Parameter Estimation. Astrophysical Journal Letters, 2019, 887, L21.	3.0	914
7	Isospin asymmetry in nuclei and neutron stars. Physics Reports, 2005, 411, 325-375.	10.3	802
8	The Nuclear Equation of State and Neutron Star Masses. Annual Review of Nuclear and Particle Science, 2012, 62, 485-515.	3.5	753
9	THE EQUATION OF STATE FROM OBSERVED MASSES AND RADII OF NEUTRON STARS. Astrophysical Journal, 2010, 722, 33-54.	1.6	735
10	The birth of neutron stars. Astrophysical Journal, 1986, 307, 178.	1.6	663
11	Direct URCA process in neutron stars. Physical Review Letters, 1991, 66, 2701-2704.	2.9	638
12	Composition and structure of protoneutron stars. Physics Reports, 1997, 280, 1-77.	10.3	636
13	Black-hole-neutron-star collisions. Astrophysical Journal, 1974, 192, L145.	1.6	609
14	The Radius of PSR J0740+6620 from NICER and XMM-Newton Data. Astrophysical Journal Letters, 2021, 918, L28.	3.0	556
15	EQUATION OF STATE AND NEUTRON STAR PROPERTIES CONSTRAINED BY NUCLEAR PHYSICS AND OBSERVATION. Astrophysical Journal, 2013, 773, 11.	1.6	546
16	A NICER View of the Massive Pulsar PSR J0740+6620 Informed by Radio Timing and XMM-Newton Spectroscopy. Astrophysical Journal Letters, 2021, 918, L27.	3.0	544
17	Equation of state in the gravitational collapse of stars. Nuclear Physics A, 1979, 324, 487-533.	0.6	488
18	Tidal Deformabilities and Radii of Neutron Stars from the Observation of GW170817. Physical Review Letters, 2018, 121, 091102.	2.9	454

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19	Evolution of Protoâ€“Neutron Stars. Astrophysical Journal, 1999, 513, 780-804.	1.6	438
20	Minimal Cooling of Neutron Stars: A New Paradigm. Astrophysical Journal, Supplement Series, 2004, 155, 623-650.	3.0	436
21	CONSTRAINING THE SYMMETRY PARAMETERS OF THE NUCLEAR INTERACTION. Astrophysical Journal, 2013, 771, 51.	1.6	427
22	The equation of state of hot, dense matter and neutron stars. Physics Reports, 2016, 621, 127-164.	10.3	418
23	Rapid Cooling of the Neutron Star in Cassiopeia A Triggered by Neutron Superfluidity in Dense Matter. Physical Review Letters, 2011, 106, 081101.	2.9	353
24	THE NEUTRON STAR MASS-RADIUS RELATION AND THE EQUATION OF STATE OF DENSE MATTER. Astrophysical Journal Letters, 2013, 765, L5.	3.0	351
25	Constraining the Equation of State with Moment of Inertia Measurements. Astrophysical Journal, 2005, 629, 979-984.	1.6	320
26	The tidal disruption of neutron stars by black holes in close binaries. Astrophysical Journal, 1976, 210, 549.	1.6	314
27	The Equation of State of Neutron Star Matter in Strong Magnetic Fields. Astrophysical Journal, 2000, 537, 351-367.	1.6	293
28	Constraints on Neutron Star Radii Based on Chiral Effective Field Theory Interactions. Physical Review Letters, 2010, 105, 161102.	2.9	293
29	Equation of State and the Maximum Mass of Neutron Stars. Physical Review Letters, 1988, 61, 2518-2521.	2.9	273
30	Tidal Love numbers of neutron and self-bound quark stars. Physical Review D, 2010, 82, .	1.6	273
31	Nuclear matter and its role in supernovae, neutron stars and compact object binary mergers. Physics Reports, 2000, 333-334, 121-146.	10.3	262
32	Neutrino interactions in hot and dense matter. Physical Review D, 1998, 58, .	1.6	261
33	Pulsar Constraints on Neutron Star Structure and Equation of State. Physical Review Letters, 1999, 83, 3362-3365.	2.9	252
34	Effects of Strong Magnetic Fields on Neutron Star Structure. Astrophysical Journal, 2001, 554, 322-339.	1.6	248
35	NEUTRON STAR MASSES AND RADII FROM QUIESCENT LOW-MASS X-RAY BINARIES. Astrophysical Journal, 2014, 784, 123.	1.6	236
36	Symmetry Parameter Constraints from a Lower Bound on Neutron-matter Energy. Astrophysical Journal, 2017, 848, 105.	1.6	233

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37	Constraints on the symmetry energy using the mass-radius relation of neutron stars. European Physical Journal A, 2014, 50, 1.	1.0	224
38	Physical properties of hot, dense matter: The general case. Nuclear Physics A, 1985, 432, 646-742.	0.6	223
39	Composition, structure and evolution of neutron stars with kaon condensates. Nuclear Physics A, 1994, 572, 693-731.	0.6	218
40	The origin of deuterium. Nature, 1976, 263, 198-202.	13.7	211
41	Toward a Mass and Radius Determination of the Nearby Isolated Neutron Star RX J185635â˜3754. Astrophysical Journal, 2002, 564, 981-1006.	1.6	196
42	Condensation in supernova ejecta and isotopic anomalies in meteorites. Astrophysical Journal, 1978, 219, 230.	1.6	192
43	Constraints on the Dense Matter Equation of State and Neutron Star Properties from NICERâ€™s Massâ€“Radius Estimate of PSR J0740+6620 and Multimessenger Observations. Astrophysical Journal Letters, 2021, 918, L29.	3.0	190
44	Effects of strong and electromagnetic correlations on neutrino interactions in dense matter. Physical Review C, 1999, 59, 2888-2918.	1.1	188
45	NEUTRINO EMISSION FROM COOPER PAIRS AND MINIMAL COOLING OF NEUTRON STARS. Astrophysical Journal, 2009, 707, 1131-1140.	1.6	187
46	The decompression of cold neutron star matter. Astrophysical Journal, 1977, 213, 225.	1.6	183
47	Hot Dense Matter and Stellar Collapse. Physical Review Letters, 1978, 41, 1623-1626.	2.9	181
48	Limits on the Neutrino Magnetic Moment from SN1987A. Physical Review Letters, 1988, 61, 23-26.	2.9	171
49	Rapid cooling and the structure of neutron stars. Astrophysical Journal, 1994, 425, 802.	1.6	169
50	The Large Observatory for X-ray Timing (LOFT). Experimental Astronomy, 2012, 34, 415-444.	1.6	168
51	A NICER View of PSR J0030+0451: Implications for the Dense Matter Equation of State. Astrophysical Journal Letters, 2019, 887, L22.	3.0	162
52	Rapid cooling of neutron stars by hyperons and Delta isobars. Astrophysical Journal, 1992, 390, L77.	1.6	162
53	Constraining the Dense Matter Equation of State with Joint Analysis of NICER and LIGO/Virgo Measurements. Astrophysical Journal Letters, 2020, 893, L21.	3.0	143
54	Evolution of Proto-Neutron Stars with Quarks. Physical Review Letters, 2001, 86, 5223-5226.	2.9	139

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55	A Revised Parallax and Its Implications for RX J185635â˜3754. Astrophysical Journal, 2002, 576, L145-L148.	1.6	134
56	Quark-hadron phase transition in protoneutron stars. Physical Review D, 1995, 52, 661-665.	1.6	124
57	Ultimate Energy Density of Observable Cold Baryonic Matter. Physical Review Letters, 2005, 94, 111101.	2.9	120
58	Prospects of Detecting Baryon and Quark Superfluidity from Cooling Neutron Stars. Physical Review Letters, 2000, 85, 2048-2051.	2.9	117
59	Nuclear interface energy at finite temperatures. Nuclear Physics A, 1983, 407, 571-591.	0.6	115
60	Effects of strong magnetic fields in strange baryonic matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 531, 167-174.	1.5	111
61	The Equation of State of Hot Dense Matter and Supernovae. Annual Review of Nuclear and Particle Science, 1981, 31, 337-374.	3.5	110
62	Rapidly rotating pulsars and the equation of state. Astrophysical Journal, 1990, 355, 241.	1.6	110
63	Neutron star matter at high temperatures and densities. I - Bulk properties of nuclear matter. Astrophysical Journal, 1978, 223, 314.	1.6	110
64	Analysis of the neutrino events from supernova 1987A. Astrophysical Journal, 1989, 340, 426.	1.6	110
65	Neutrinos from SN 1987A. Astrophysical Journal, 1987, 318, L63.	1.6	108
66	Physical properties of hot, dense matter: The bulk equilibrium approximation. Nuclear Physics A, 1981, 360, 459-482.	0.6	107
67	Keplerian frequency of uniformly rotating neutron stars and strange stars. Astronomy and Astrophysics, 2009, 502, 605-610.	2.1	98
68	Quark-hadron phase transitions in Young and old neutron stars. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 486, 239-248.	1.5	92
69	Neutron star radii, universal relations, and the role of prior distributions. European Physical Journal A, 2016, 52, 1.	1.0	89
70	Limits on the Neutrino Magnetic Moment from Sn1987A. Physical Review Letters, 1988, 61, 2633-2633.	2.9	86
71	Kaon condensation in proto-neutron star matter. Physical Review C, 2000, 62, .	1.1	85
72	Evolution of Protoâ€“Neutron Stars with Kaon Condensates. Astrophysical Journal, 2001, 553, 382-393.	1.6	79

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73	The role of the equation of state in the 'prompt' phase of type II supernovae. Astrophysical Journal, 1994, 425, 195.	1.6	79
74	Tidal deformabilities and neutron star mergers. Physical Review D, 2018, 98, .	1.6	78
75	Limiting masses and radii of neutron stars and their implications. Physical Review C, 2021, 103, .	1.1	76
76	Stellar core collapse. I - Infall epoch. Astrophysical Journal, 1981, 249, 270.	1.6	72
77	REVISITING THE PARALLAX OF THE ISOLATED NEUTRON STAR RX J185635â€“3754 USINGHST/ACS IMAGING. Astrophysical Journal, 2010, 724, 669-677.	1.6	62
78	Quarkyonic matter equation of state in beta-equilibrium. Physical Review D, 2020, 102, .	1.6	57
79	The prompt mechanism of Type II supernovae. Astrophysical Journal, 1985, 299, L19.	1.6	57
80	Thermal properties of supernova matter: The bulk homogeneous phase. Physical Review C, 2014, 89, .	1.1	55
81	Nuclear forces, partition functions, and dissociation in stellar collapse. Astrophysical Journal, 1979, 229, 713.	1.6	54
82	The effect of trapped lepton number and entropy on the outcome of stellar collapse. Astrophysical Journal, 1983, 270, 735.	1.6	54
83	The deleptonization and heating of proton-neutron stars. Astrophysical Journal, 1981, 251, 325.	1.6	53
84	On the accuracy of the single-nucleus approximation in the equation of state of hot, dense matter. Astrophysical Journal, 1984, 285, 294.	1.6	53
85	NS 1987A in SN 1987A. Astrophysical Journal, 2020, 898, 125.	1.6	52
86	Thermal properties of hot and dense matter with finite range interactions. Physical Review C, 2015, 92, .	1.1	51
87	Equation of State Constraints from Nuclear Physics, Neutron Star Masses, and Future Moment of Inertia Measurements. Astrophysical Journal, 2020, 901, 155.	1.6	51
88	Surface and curvature properties of neutron-rich nuclei. Nuclear Physics A, 1985, 439, 535-572.	0.6	50
89	NEUTRINOPROPAGATION INDENSEASTROPHYSICALSYSTEMS. Annual Review of Nuclear and Particle Science, 2001, 51, 295-344.	3.5	50
90	Chemical condensation sequences in supernova ejecta. The Moon and the Planets, 1978, 19, 169-184.	0.5	49

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91	Convection, type II supernovae, and the early evolution of neutron stars. Physics Reports, 1988, 163, 51-62.	10.3	49
92	Neutrino helicity flips via electroweak interactions. Physical Review D, 1989, 40, 309-314.	1.6	49
93	Evolution of a Neutron Star from Its Birth to Old Age. Lecture Notes in Physics, 2001, , 364-423.	0.3	42
94	Neutron Star Mass and Radius Measurements. Universe, 2019, 5, 159.	0.9	42
95	Supernova theory and the neutrinos from SN1987a. Nuclear Physics A, 1988, 478, 199-217.	0.6	38
96	Enthalpies of formation of CaAl4O7 and CaAl12O19 (hibonite) by high temperature, alkali borate solution calorimetry. Geochimica Et Cosmochimica Acta, 1988, 52, 1729-1736.	1.6	38
97	Diffusion of neutrinos in proto-neutron star matter with quarks. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2001, 509, 10-18.	1.5	35
98	What a Two Solar Mass Neutron Star Really Means. , 2011, , 275-304.		35
99	Leptonic overturn and shocks in collapsing stellar cores. Astrophysical Journal, 1981, 246, 955.	1.6	33
100	Neutron stars. General Relativity and Gravitation, 2014, 46, 1.	0.7	32
101	Neutron stars and the dense matter equation of state. Astrophysics and Space Science, 2011, 336, 67-74.	0.5	31
102	Phase transitions in cold and warm dense matter. Nuclear Physics A, 1983, 411, 449-473.	0.6	29
103	Symmetry energy in nuclei and neutron stars. Nuclear Physics A, 2014, 928, 276-295.	0.6	29
104	Newborn hot neutron stars. Nuclear Physics A, 1995, 583, 623-628.	0.6	27
105	Equation of state, neutron stars and exotic phases. Nuclear Physics A, 2006, 777, 479-496.	0.6	27
106	Numerical Approximation to the Thermodynamic Integrals. Astrophysical Journal, 1996, 473, 1020-1028.	1.6	22
107	Type II supernova energetics. Astrophysical Journal, 1985, 288, 644.	1.6	21
108	Supernovae for Pedestrians. , 1982, , 53-70.		20

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109	Supernovae, grains and the formation of the Solar System. Nature, 1977, 269, 116-118.	13.7	18
110	Observability of neutron stars with quarks. Nuclear Physics A, 2003, 715, 835c-838c.	0.6	18
111	The Boltzmann equation in general relativistic rotating systems - Cooling of rotating neutron stars. Astrophysical Journal, 1993, 407, 687.	1.6	18
112	Are supernovae sources of presolar grains?. Nature, 1977, 270, 700-701.	13.7	16
113	Degenerate limit thermodynamics beyond leading order for models of dense matter. Annals of Physics, 2015, 363, 533-555.	1.0	16
114	Neutron star equation of state. New Astronomy Reviews, 2010, 54, 101-109.	5.2	15
115	Effect of nuclear curvature energy on the transition between nuclei and bubbles in dense matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1983, 128, 137-140.	1.5	12
116	Introduction to neutron stars. , 2015, , .		12
117	Properties of warm dense matter at low entropies. Nuclear Physics A, 1984, 414, 517-528.	0.6	11
118	Strangeness in stellar matter. Nuclear Physics A, 1998, 639, 433c-442c.	0.6	11
119	The Physics of Supernova Shocks. , 1984, , 147-162.		11
120	Neutron stars are gold mines. International Journal of Modern Physics E, 2017, 26, 1740014.	0.4	9
121	The structure of strange quark matter and neutron stars. Journal of Physics G: Nuclear and Particle Physics, 2004, 30, S479-S486.	1.4	8
122	Mergers of binary stars: the ultimate heavy-ion experience. Journal of Physics G: Nuclear and Particle Physics, 2004, 30, S1279-S1282.	1.4	7
123	Impact of GW170817 for the nuclear physics of the EOS and the r-process. Annals of Physics, 2019, 411, 167963.	1.0	7
124	A tale of two mergers: searching for strangeness in compact stars. Journal of Physics G: Nuclear and Particle Physics, 2004, 30, S451-S459.	1.4	6
125	Neutron Star Structure and the Equation of State. Progress of Theoretical Physics Supplement, 2010, 186, 1-8.	0.2	6
126	Properties of the isolated neutron star RX J185635-3754. Advances in Space Research, 2004, 33, 513-517.	1.2	4

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127	Equation of state constraints from neutron stars. Astrophysics and Space Science, 2007, 308, 371-379.	0.5	4
128	A Rapidly Cooling Neutron Star. Physics Magazine, 0, 11, .	0.1	4
129	Neutron star masses and radii. AIP Conference Proceedings, 2019, , .	0.3	3
130	Strangeness in stellar matter. Acta Physica Hungarica A Heavy Ion Physics, 1996, 4, 271-292.	0.4	3
131	Inside information. Nature Physics, 2006, 2, 443-444.	6.5	2
132	Neutron Star Physics and EOS. EPJ Web of Conferences, 2016, 109, 07001.	0.1	2
133	THE MINIMAL COOLING OF NEUTRON STARS. , 2004, , .		2
134	Gravitational collapse and supernovae. Contemporary Physics, 1989, 30, 55-64.	0.8	1
135	Neutron star equation of state. AIP Conference Proceedings, 2001, , .	0.3	1
136	Astrophysical and laboratory constraints for the dense matter equation of state. , 2012, , .		1
137	Perspectives on the Equation of State in Neutron Stars. , 2017, , .		1
138	Neutron stars are gold mines. , 2017, , 159-191.		1
139	Equation of State from Neutron Star Mass and Radius Measurements. , 2020, , .		1
140	Probing the Neutron Star Interior with Glitches. Astrophysics and Space Science Library, 2000, , 117-126.	1.0	1
141	BLACK-HOLE-NEUTRON-STAR COLLISIONS. , 1996, , 663-665.		1
142	Implications of a Fast Pulsar for the Equation of State. , 1991, , 318-320.		0
143	Tales of Neutrinos. Science, 1997, 276, 1344-1344.	6.0	0
144	Supernova theory. Nuclear Physics, Section B, Proceedings Supplements, 2000, 81, 283-293.	0.5	0

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145	The Isolated Neutron Star RX J185635-3754. Symposium - International Astronomical Union, 2000, 195, 437-438.	0.1	0
146	Structure of Strange Quark Matter and Neutron Stars. Symposium - International Astronomical Union, 2004, 218, 289-296.	0.1	0
147	Constraints on the Dense Matter Equation of State from Observations. AIP Conference Proceedings, 2006, , .	0.3	0
148	DENSE NUCLEAR MATTER: CONSTRAINTS FROM NEUTRON STARS. , 2008, , .		0
149	Neutron Star Observations and the Equation of State. , 2009, , .		0
150	Evolution of Neutron Stars and Observational Constraints. EPJ Web of Conferences, 2010, 7, 03001.	0.1	0
151	In memory of Gerald Edward Brown. Nuclear Physics A, 2014, 928, 4-6.	0.6	0
152	Equation of state constraints from neutron stars. , 2007, , 371-379.		0
153	Supernovae, grains and the formation of the Solar System. , 1996, , 577-579.		0