Hiroki Nagakura

List of Publications by Year
in descending order

69 papers	2,386 citations	172457 29 h-index	206112 48 g-index
69 all docs	69 docs citations	69 times ranked	1434 citing authors

#	Article	IF	Citations
1	The overarching framework of core-collapse supernova explosions as revealed by 3D <scp>fornax</scp> simulations. Monthly Notices of the Royal Astronomical Society, 2020, 491, 2715-2735.	4.4	164
2	JET COLLIMATION IN THE EJECTA OF DOUBLE NEUTRON STAR MERGERS: A NEW CANONICAL PICTURE OF SHORT GAMMA-RAY BURSTS. Astrophysical Journal Letters, 2014, 784, L28.	8.3	159
3	Characterizing the Gravitational Wave Signal from Core-collapse Supernovae. Astrophysical Journal Letters, 2019, 876, L9.	8.3	127
4	JET PROPAGATIONS, BREAKOUTS, AND PHOTOSPHERIC EMISSIONS IN COLLAPSING MASSIVE PROGENITORS OF LONG-DURATION GAMMA-RAY BURSTS. Astrophysical Journal, 2011, 731, 80.	4.5	101
5	Simulations of Core-collapse Supernovae in Spatial Axisymmetry with Full Boltzmann Neutrino Transport. Astrophysical Journal, 2018, 854, 136.	4.5	88
6	Neutrino oscillations in supernovae: Angular moments and fast instabilities. Physical Review D, 2020, 101, .	4.7	79
7	Fast neutrino-flavor conversion in the preshock region of core-collapse supernovae. Physical Review Research, 2020, 2, .	3.6	77
8	THREE-DIMENSIONAL BOLTZMANN HYDRO CODE FOR CORE COLLAPSE IN MASSIVE STARS. I. SPECIAL RELATIVISTIC TREATMENTS. Astrophysical Journal, Supplement Series, 2014, 214, 16.	7.7	76
9	Fast collective neutrino oscillations inside the neutrino sphere in core-collapse supernovae. Physical Review D, 2020, 101, .	4.7	75
10	Core-collapse supernovae as supercomputing science: A status report toward six-dimensional simulations with exact Boltzmann neutrino transport in full general relativity. Progress of Theoretical and Experimental Physics, 2012, 2012, .	6.6	68
11	Linear analysis of fast-pairwise collective neutrino oscillations in core-collapse supernovae based on the results of Boltzmann simulations. Physical Review D, 2019, 99, .	4.7	66
12	Fast-pairwise Collective Neutrino Oscillations Associated with Asymmetric Neutrino Emissions in Core-collapse Supernovae. Astrophysical Journal, 2019, 886, 139.	4.5	65
13	A Detailed Comparison of Multidimensional Boltzmann Neutrino Transport Methods in Core-collapse Supernovae. Astrophysical Journal, 2017, 847, 133.	4.5	62
14	A systematic study of proto-neutron star convection in three-dimensional core-collapse supernova simulations. Monthly Notices of the Royal Astronomical Society, 2020, 492, 5764-5779.	4.4	59
15	Fast oscillations, collisionless relaxation, and spurious evolution of supernova neutrino flavor. Physical Review D, 2020, 102, .	4.7	53
16	Where, when, and why: Occurrence of fast-pairwise collective neutrino oscillation in three-dimensional core-collapse supernova models. Physical Review D, 2021, 104, .	4.7	53
17	Three-dimensional Boltzmann-Hydro Code for Core-collapse in Massive Stars. II. The Implementation of Moving-mesh for Neutron Star Kicks. Astrophysical Journal, Supplement Series, 2017, 229, 42.	7.7	51
18	Core-collapse supernova neutrino emission and detection informed by state-of-the-art three-dimensional numerical models. Monthly Notices of the Royal Astronomical Society, 2020, 500, 696-717.	4.4	50

#	Article	IF	Citations
19	Towards an understanding of the resolution dependence of Core-Collapse Supernova simulations. Monthly Notices of the Royal Astronomical Society, 2019, 490, 4622-4637.	4.4	48
20	Possible Early Linear Acceleration of Proto-neutron Stars via Asymmetric Neutrino Emission in Core-collapse Supernovae. Astrophysical Journal Letters, 2019, 880, L28.	8.3	47
21	POPULATION III GAMMA-RAY BURSTS AND BREAKOUT CRITERIA FOR ACCRETION-POWERED JETS. Astrophysical Journal, 2012, 754, 85.	4.5	43
22	Comparing Treatments of Weak Reactions with Nuclei in Simulations of Core-collapse Supernovae. Astrophysical Journal, Supplement Series, 2019, 240, 38.	7.7	43
23	General Relativistic Hydrodynamic Simulations and Linear Analysis of the Standing Accretion Shock Instability around a Black Hole. Astrophysical Journal, 2008, 689, 391-406.	4.5	39
24	THE INFLUENCE OF INELASTIC NEUTRINO REACTIONS WITH LIGHT NUCLEI ON THE STANDING ACCRETION SHOCK INSTABILITY IN CORE-COLLAPSE SUPERNOVAE. Astrophysical Journal, 2013, 774, 78.	4.5	38
25	Neutrino Emissions in All Flavors up to the Pre-bounce of Massive Stars and the Possibility of Their Detections. Astrophysical Journal, 2017, 848, 48.	4.5	34
26	On the Neutrino Distributions in Phase Space for the Rotating Core-collapse Supernova Simulated with a Boltzmann-neutrino-radiation-hydrodynamics Code. Astrophysical Journal, 2019, 872, 181.	4.5	34
27	Prospects of Fast Flavor Neutrino Conversion in Rotating Core-collapse Supernovae. Astrophysical Journal, 2022, 924, 109.	4.5	33
28	Dependence of weak interaction rates on the nuclear composition during stellar core collapse. Physical Review C, 2017, 95, .	2.9	32
29	Supernova neutrino signals based on long-term axisymmetric simulations. Monthly Notices of the Royal Astronomical Society, 2021, 506, 1462-1479.	4.4	31
30	CRITICAL SURFACE FOR EXPLOSIONS OF ROTATIONAL CORE-COLLAPSE SUPERNOVAE. Astrophysical Journal, 2014, 793, 5.	4.5	30
31	Conservative form of Boltzmannâ€™s equation in general relativity. Physical Review D, 2014, 89, .	4.7	30
32	THE STANDING ACCRETION SHOCK INSTABILITY IN THE DISK AROUND THE KERR BLACK HOLE. Astrophysical Journal, 2009, 696, 2026-2035.	4.5	29
33	POST-SHOCK-REVIVAL EVOLUTION IN THE NEUTRINO-HEATING MECHANISM OF CORE-COLLAPSE SUPERNOVAE. Astrophysical Journal, 2013, 771, 27.	4.5	29
34	Three-dimensional Boltzmann-hydro Code for Core-collapse in Massive Stars. III. A New Method for Momentum Feedback from Neutrino to Matter. Astrophysical Journal, 2019, 878, 160.	4.5	28
35	The Boltzmann-radiation-hydrodynamics Simulations of Core-collapse Supernovae with Different Equations of State: The Role of Nuclear Composition and the Behavior of Neutrinos. Astrophysical Journal, 2020, 902, 150.	4.5	26
36	Fast flavor instabilities and the search for neutrino angular crossings. Physical Review D, 2021, 103, .	4.7	25

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37	Simulations of the Early Postbounce Phase of Core-collapse Supernovae in Three-dimensional Space with Full Boltzmann Neutrino Transport. Astrophysical Journal, 2020, 903, 82.	4.5	24
38	HYSTERESIS OF BACKFLOW IMPRINTED IN COLLIMATED JETS. Astrophysical Journal Letters, 2010, 709, L83-L87.	8.3	23
39	New method for detecting fast neutrino flavor conversions in core-collapse supernova models with two-moment neutrino transport. Physical Review D, 2021, 104, .	4.7	21
40	Neutrino Transport with the Monte Carlo Method. II. Quantum Kinetic Equations. Astrophysical Journal, Supplement Series, 2021, 257, 55.	7.7	21
41	Constructing angular distributions of neutrinos in core-collapse supernovae from zeroth and first moments calibrated by full Boltzmann neutrino transport. Physical Review D, 2021, 103, .	4.7	20
42	Retrieval of energy spectra for all flavours of neutrinos from core-collapse supernova with multiple detectors. Monthly Notices of the Royal Astronomical Society, 2020, 500, 319-332.	4.4	20
43	PARAMETRIC STUDY OF FLOW PATTERNS BEHIND THE STANDING ACCRETION SHOCK WAVE FOR CORE-COLLAPSE SUPERNOVAE. Astrophysical Journal, 2014, 786, 118.	4.5	19
44	A SEMI-DYNAMICAL APPROACH TO THE SHOCK REVIVAL IN CORE-COLLAPSE SUPERNOVAE. Astrophysical Journal, 2013, 765, 123.	4.5	17
45	Efficient method for estimating the time evolution of the proto-neutron star mass and radius from a supernova neutrino signal. Monthly Notices of the Royal Astronomical Society, 2022, 512, 2806-2816.	4.4	15
46	Neutrino Transport with Monte Carlo Method. I. Toward Fully Consistent Implementation of Nucleon Recoils in Core-collapse Supernova Simulations. Astrophysical Journal, 2020, 897, 43.	4.5	12
47	MULTI-LAYERED CONFIGURATIONS IN DIFFERENTIALLY ROTATIONAL EQUILIBRIUM. Astrophysical Journal, 2010, 717, 666-673.	4.5	9
48	Hyperbolic self-gravity solver for large scale hydrodynamical simulations. Physical Review D, 2016, 93, .	4.7	9
49	On the importance of progenitor asymmetry to shock revival in core-collapse supernovae. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	9
50	Multidimensional Boltzmann Neutrino Transport Code in Full General Relativity for Core-collapse Simulations. Astrophysical Journal, 2021, 909, 210.	4.5	9
51	Non-thermal neutrinos created by shock acceleration in successful and failed core-collapse supernova. Monthly Notices of the Royal Astronomical Society, 2021, 502, 89-107.	4.4	9
52	High-z gamma-ray bursts unraveling the dark ages and extreme space-time mission: HiZ-GUNDAM. , 2020, , .		9
53	THE PROPAGATION OF NEUTRINO-DRIVEN JETS IN WOLF-RAYET STARS. Astrophysical Journal, 2013, 764, 139.	4.5	8
54	The impact of asymmetric neutrino emissions on nucleosynthesis in core-collapse supernovae. Monthly Notices of the Royal Astronomical Society: Letters, 2019, 488, L114-L118.	3.3	8

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55	DIRECT TIME RADIO VARIABILITY INDUCED BY NON-AXISYMMETRIC STANDING ACCRETION SHOCK INSTABILITY: IMPLICATIONS FOR M87. Astrophysical Journal, 2010, 711, 222-227.	4.5	7
56	OPTICAL SYNCHROTRON PRECURSORS OF RADIO HYPERNOVAE. Astrophysical Journal, 2015, 805, 164.	4.5	7
57	The impact of asymmetric neutrino emissions on nucleosynthesis in core-collapse supernovae II â€“ progenitor dependences. Monthly Notices of the Royal Astronomical Society, 2021, 502, 2319-2330.	4.4	6
58	Parallel computing of radiative transfer in relativistic jets using Monte Carlo method. High Energy Density Physics, 2013, 9, 280-287.	1.5	3
59	The sensitivity of presupernova neutrinos to stellar evolution models. Monthly Notices of the Royal Astronomical Society, 2020, 496, 3961-3972.	4.4	3
60	Principal-axis Analysis of the Eddington Tensor for the Early Post-bounce Phase of Rotational Core-collapse Supernovae. Astrophysical Journal, 2022, 933, 91.	4.5	3
61	Population III Gamma-Ray Burst. Proceedings of the International Astronomical Union, 2011, 7, 301-304.	0.0	1
62	A new equation of state with light nuclei and their weak interactions in core-collapse supernova simulations. , 2014, , .		1
63	Validation of radiative transfer computation with Monte Carlo method for ultra-relativistic background flow. Journal of Computational Physics, 2017, 348, 612-633.	3.8	1
64	The Accretion-Powered Jet Propagations and Breakout Criteria for GRB Progenitors. Proceedings of the International Astronomical Union, 2011, 7, 363-364.	0.0	0
65	Jet breakouts and photospheric emissions in rotating collapsing massive stars. , 2011, , .		0
66	The influence of inelastic neutrino interactions with light clusters on core-collapse supernova simulations. Journal of Physics: Conference Series, 2014, 569, 012059.	0.4	0
67	Identical algorithm of radiative transfer across ultrarelativistic shock in different inertial frames. High Energy Density Physics, 2015, 17, 85-91.	1.5	0
68	Radiation-Hydrodynamic Simulations of Core-collapse Supernovae with 6 Dimensional Boltzmann Neutrino Transport. Journal of Physics: Conference Series, 2019, 1225, 012003.	0.4	0
69	Pre-supernova neutrino emission from massive stars and their detection. Journal of Physics: Conference Series, 2020, 1468, 012173.	0.4	0