Sean M Couch

List of Publications by Year
in descending order

51 papers	2,730 citations	147566 31 h-index	189595 50 g-index
53 all docs	53 docs citations	53 times ranked	1922 citing authors

#	Article	IF	Citations
1	Exploring Fundamentally Three-dimensional Phenomena in High-fidelity Simulations of Core-collapse Supernovae. Astrophysical Journal, 2018, 865, 81.	1.6	173
2	THE ROLE OF TURBULENCE IN NEUTRINO-DRIVEN CORE-COLLAPSE SUPERNOVA EXPLOSIONS. Astrophysical Journal, 2015, 799, 5.	1.6	171
3	REVIVAL OF THE STALLED CORE-COLLAPSE SUPERNOVA SHOCK TRIGGERED BY PRECOLLAPSE ASPHERICITY IN THE PROGENITOR STAR. Astrophysical Journal Letters, 2013, 778, L7.	3.0	165
4	LIGHT CURVES OF CORE-COLLAPSE SUPERNOVAE WITH SUBSTANTIAL MASS LOSS USING THE NEW OPEN-SOURCE SUPERNOVA EXPLOSION CODE (SNEC). Astrophysical Journal, 2015, 814, 63.	1.6	151
5	ACCRETION ONTO â€œSEEDâ€• BLACK HOLES IN THE FIRST GALAXIES. Astrophysical Journal, 2009, 698, 766-780.	1.6	145
6	THE THREE-DIMENSIONAL EVOLUTION TO CORE COLLAPSE OF A MASSIVE STAR. Astrophysical Journal Letters, 2015, 808, L21.	3.0	125
7	ACCRETION ONTO INTERMEDIATE-MASS BLACK HOLES IN DENSE PROTOGALACTIC CLOUDS. Astrophysical Journal, 2009, 696, L146-L149.	1.6	118
8	Global comparison of core-collapse supernova simulations in spherical symmetry. Journal of Physics G: Nuclear and Particle Physics, 2018, 45, 104001.	1.4	108
9	HIGH-RESOLUTION THREE-DIMENSIONAL SIMULATIONS OF CORE-COLLAPSE SUPERNOVAE IN MULTIPLE PROGENITORS. Astrophysical Journal, 2014, 785, 123.	1.6	107
10	ON THE IMPACT OF THREE DIMENSIONS IN SIMULATIONS OF NEUTRINO-DRIVEN CORE-COLLAPSE SUPERNOVA EXPLOSIONS. Astrophysical Journal, 2013, 775, 35.	1.6	101
11	Two-dimensional Core-collapse Supernova Explosions Aided by General Relativity with Multidimensional Neutrino Transport. Astrophysical Journal, 2018, 854, 63.	1.6	93
12	Equation of State Dependent Dynamics and Multi-messenger Signals from Stellar-mass Black Hole Formation. Astrophysical Journal, 2018, 857, 13.	1.6	68
13	ASPHERICAL CORE-COLLAPSE SUPERNOVAE IN RED SUPERGIANTS POWERED BY NONRELATIVISTIC JETS. Astrophysical Journal, 2009, 696, 953-970.	1.6	67
14	NEUTRINO-DRIVEN CONVECTION IN CORE-COLLAPSE SUPERNOVAE: HIGH-RESOLUTION SIMULATIONS. Astrophysical Journal, 2016, 820, 76.	1.6	64
15	Simulating Turbulence-aided Neutrino-driven Core-collapse Supernova Explosions in One Dimension. Astrophysical Journal, 2020, 890, 127.	1.6	61
16	THE DEPENDENCE OF THE NEUTRINO MECHANISM OF CORE-COLLAPSE SUPERNOVAE ON THE EQUATION OF STATE. Astrophysical Journal, 2013, 765, 29.	1.6	59
17	AN IMPROVED MULTIPOLE APPROXIMATION FOR SELF-GRAVITY AND ITS IMPORTANCE FOR CORE-COLLAPSE SUPERNOVA SIMULATIONS. Astrophysical Journal, 2013, 778, 181.	1.6	57
18	RADIATION TRANSPORT FOR EXPLOSIVE OUTFLOWS: A MULTIGROUP HYBRID MONTE CARLO METHOD. Astrophysical Journal, Supplement Series, 2013, 209, 36.	3.0	57

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19	ASPHERICAL SUPERNOVA SHOCK BREAKOUT AND THE OBSERVATIONS OF SUPERNOVA 2008D. Astrophysical Journal, 2011, 727, 104.	1.6	56
20	MULTI-DIMENSIONAL SIMULATIONS OF ROTATING PAIR-INSTABILITY SUPERNOVAE. Astrophysical Journal, 2013, 776, 129.	1.6	54
21	IDENTIFICATION OF FAINT<i>CHANDRA</i>X-RAY SOURCES IN THE CORE-COLLAPSED GLOBULAR CLUSTER NGC 6397: EVIDENCE FOR A BIMODAL CATACLYSMIC VARIABLE POPULATION. Astrophysical Journal, 2010, 722, 20-32.	1.6	52
22	Turbulence in core-collapse supernovae. Journal of Physics G: Nuclear and Particle Physics, 2018, 45, 053003.	1.4	50
23	Constraining Properties of the Next Nearby Core-collapse Supernova with Multimessenger Signals. Astrophysical Journal, 2020, 898, 139.	1.6	47
24	Equation of State and Progenitor Dependence of Stellar-mass Black Hole Formation. Astrophysical Journal, 2020, 894, 4.	1.6	43
25	COLLAPSAR ACCRETION AND THE GAMMA-RAY BURST X-RAY LIGHT CURVE. Astrophysical Journal, 2010, 713, 800-815.	1.6	41
26	CONVECTIVE PROPERTIES OF ROTATING TWO-DIMENSIONAL CORE-COLLAPSE SUPERNOVA PROGENITORS. Astrophysical Journal, 2016, 822, 61.	1.6	38
27	The Impact of Nuclear Reaction Rate Uncertainties on the Evolution of Core-collapse Supernova Progenitors. Astrophysical Journal, Supplement Series, 2018, 234, 19.	3.0	38
28	Gravitational-wave Signature of a First-order Quantum Chromodynamics Phase Transition in Core-Collapse Supernovae. Physical Review Letters, 2020, 125, 051102.	2.9	38
29	The Shape of Cas A. Astrophysical Journal, 2008, 677, 1091-1099.	1.6	34
30	Implicit large eddy simulations of anisotropic weakly compressible turbulence with application to core-collapse supernovae. Computational Astrophysics and Cosmology, 2015, 2, .	22.7	32
31	The impact of different neutrino transport methods on multidimensional core-collapse supernova simulations. Journal of Physics G: Nuclear and Particle Physics, 2019, 46, 014001.	1.4	31
32	The mechanism(s) of core-collapse supernovae. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160271.	1.6	29
33	Features of Accretion-phase Gravitational-wave Emission from Two-dimensional Rotating Core-collapse Supernovae. Astrophysical Journal, 2019, 878, 13.	1.6	29
34	Three-dimensional Hydrodynamic Simulations of Convective Nuclear Burning in Massive Stars Near Iron Core Collapse. Astrophysical Journal, 2021, 921, 28.	1.6	25
35	Stellar Mass Black Hole Formation and Multimessenger Signals from Three-dimensional Rotating Core-collapse Supernova Simulations. Astrophysical Journal, 2021, 914, 140.	1.6	24
36	On the Development of Multidimensional Progenitor Models for Core-collapse Supernovae. Astrophysical Journal, 2020, 901, 33.	1.6	22

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37	Equation-of-state Dependence of Gravitational Waves in Core-collapse Supernovae. Astrophysical Journal, 2021, 923, 201.	1.6	21
38	Shock Vorticity Generation from Accelerated Ion Streaming in the Precursor of Ultrarelativistic Gammaâ€Ray Burst External Shocks. Astrophysical Journal, 2008, 688, 462-469.	1.6	19
39	CHARACTERIZING THE CONVECTIVE VELOCITY FIELDS IN MASSIVE STARS. Astrophysical Journal, 2014, 795, 92.	1.6	18
40	Determining the Structure of Rotating Massive Stellar Cores with Gravitational Waves. Astrophysical Journal, 2021, 914, 80.	1.6	18
41	Multimessenger asteroseismology of core-collapse supernovae. Physical Review D, 2019, 100, .	1.6	17
42	Post-explosion Evolution of Core-collapse Supernovae. Astrophysical Journal, 2021, 921, 19.	1.6	12
43	The antesonic condition for the explosion of core-collapse supernovae â€“ I. Spherically symmetric polytropic models: stability and wind emergence. Monthly Notices of the Royal Astronomical Society, 2018, 481, 3293-3304.	1.6	10
44	Hydrodynamic simulations of electron-capture supernovae: progenitor and dimension dependence. Monthly Notices of the Royal Astronomical Society, 2022, 513, 1317-1328.	1.6	9
45	Core-Collapse Supernova Simulations including Neutrino Interactions from the Virial EOS. Proceedings of the International Astronomical Union, 2017, 12, 107-112.	0.0	8
46	Reaction Rate Sensitivity of the Production of Î³-Ray Emitting Isotopes in Core-collapse Supernovae. Astrophysical Journal, 2020, 901, 77.	1.6	7
47	Towards performance portability in the Spark astrophysical magnetohydrodynamics solver in the Flash-X simulation framework. Parallel Computing, 2021, 108, 102830.	1.3	6
48	The antesonic condition for the explosion of core-collapse supernovae â€“ II. Rotation and turbulence. Monthly Notices of the Royal Astronomical Society, 2021, 502, 4125-4136.	1.6	4
49	Exascale models of stellar explosions: Quintessential multi-physics simulation. International Journal of High Performance Computing Applications, 2022, 36, 59-77.	2.4	4
50	Influence of Non-spherical Initial Stellar Structure on the Core-Collapse Supernova Mechanism. , 2017, , 1791-1803.		2
51	Influence of Non-spherical Initial Stellar Structure on the Core-Collapse Supernova Mechanism. , 2016, , 1-13.		0