

Sean M Couch

List of Publications by Year in descending order

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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	Exascale models of stellar explosions: Quintessential multi-physics simulation. International Journal of High Performance Computing Applications, 2022, 36, 59-77.	2.4	4
2	Hydrodynamic simulations of electron-capture supernovae: progenitor and dimension dependence. Monthly Notices of the Royal Astronomical Society, 2022, 513, 1317-1328.	1.6	9
3	The antesononic condition for the explosion of core-collapse supernovae $\hat{\alpha}^{\text{II}}$. Rotation and turbulence. Monthly Notices of the Royal Astronomical Society, 2021, 502, 4125-4136.	1.6	4
4	Determining the Structure of Rotating Massive Stellar Cores with Gravitational Waves. Astrophysical Journal, 2021, 914, 80.	1.6	18
5	Stellar Mass Black Hole Formation and Multimessenger Signals from Three-dimensional Rotating Core-collapse Supernova Simulations. Astrophysical Journal, 2021, 914, 140.	1.6	24
6	Towards performance portability in the Spark astrophysical magnetohydrodynamics solver in the Flash-X simulation framework. Parallel Computing, 2021, 108, 102830.	1.3	6
7	Post-explosion Evolution of Core-collapse Supernovae. Astrophysical Journal, 2021, 921, 19.	1.6	12
8	Three-dimensional Hydrodynamic Simulations of Convective Nuclear Burning in Massive Stars Near Iron Core Collapse. Astrophysical Journal, 2021, 921, 28.	1.6	25
9	Equation-of-state Dependence of Gravitational Waves in Core-collapse Supernovae. Astrophysical Journal, 2021, 923, 201.	1.6	21
10	Gravitational-wave Signature of a First-order Quantum Chromodynamics Phase Transition in Core-Collapse Supernovae. Physical Review Letters, 2020, 125, 051102.	2.9	38
11	Equation of State and Progenitor Dependence of Stellar-mass Black Hole Formation. Astrophysical Journal, 2020, 894, 4.	1.6	43
12	Simulating Turbulence-aided Neutrino-driven Core-collapse Supernova Explosions in One Dimension. Astrophysical Journal, 2020, 890, 127.	1.6	61
13	Constraining Properties of the Next Nearby Core-collapse Supernova with Multimessenger Signals. Astrophysical Journal, 2020, 898, 139.	1.6	47
14	On the Development of Multidimensional Progenitor Models for Core-collapse Supernovae. Astrophysical Journal, 2020, 901, 33.	1.6	22
15	Reaction Rate Sensitivity of the Production of $\hat{\beta}^3$ -Ray Emitting Isotopes in Core-collapse Supernovae. Astrophysical Journal, 2020, 901, 77.	1.6	7
16	Features of Accretion-phase Gravitational-wave Emission from Two-dimensional Rotating Core-collapse Supernovae. Astrophysical Journal, 2019, 878, 13.	1.6	29
17	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
18	Multimessenger asteroseismology of core-collapse supernovae. Physical Review D, 2019, 100, .	1.6	17

#	ARTICLE	IF	CITATIONS
19	The Impact of Nuclear Reaction Rate Uncertainties on the Evolution of Core-collapse Supernova Progenitors. <i>Astrophysical Journal, Supplement Series</i> , 2018, 234, 19.	3.0	38
20	Two-dimensional Core-collapse Supernova Explosions Aided by General Relativity with Multidimensional Neutrino Transport. <i>Astrophysical Journal</i> , 2018, 854, 63.	1.6	93
21	Equation of State Dependent Dynamics and Multi-messenger Signals from Stellar-mass Black Hole Formation. <i>Astrophysical Journal</i> , 2018, 857, 13.	1.6	68
22	The antesononic condition for the explosion of core-collapse supernovae â€œ I. Spherically symmetric polytropic models: stability and wind emergence. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 481, 3293-3304.	1.6	10
23	Turbulence in core-collapse supernovae. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2018, 45, 053003.	1.4	50
24	Exploring Fundamentally Three-dimensional Phenomena in High-fidelity Simulations of Core-collapse Supernovae. <i>Astrophysical Journal</i> , 2018, 865, 81.	1.6	173
25	Global comparison of core-collapse supernova simulations in spherical symmetry. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2018, 45, 104001.	1.4	108
26	The mechanism(s) of core-collapse supernovae. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160271.	1.6	29
27	Influence of Non-spherical Initial Stellar Structure on the Core-Collapse Supernova Mechanism. , 2017, , 1791-1803.		2
28	Core-Collapse Supernova Simulations including Neutrino Interactions from the Virial EOS. <i>Proceedings of the International Astronomical Union</i> , 2017, 12, 107-112.	0.0	8
29	CONVECTIVE PROPERTIES OF ROTATING TWO-DIMENSIONAL CORE-COLLAPSE SUPERNOVA PROGENITORS. <i>Astrophysical Journal</i> , 2016, 822, 61.	1.6	38
30	NEUTRINO-DRIVEN CONVECTION IN CORE-COLLAPSE SUPERNOVAE: HIGH-RESOLUTION SIMULATIONS. <i>Astrophysical Journal</i> , 2016, 820, 76.	1.6	64
31	Influence of Non-spherical Initial Stellar Structure on the Core-Collapse Supernova Mechanism. , 2016, , 1-13.		0
32	LIGHT CURVES OF CORE-COLLAPSE SUPERNOVAE WITH SUBSTANTIAL MASS LOSS USING THE NEW OPEN-SOURCE SUPERNOVA EXPLOSION CODE (SNEC). <i>Astrophysical Journal</i> , 2015, 814, 63.	1.6	151
33	Implicit large eddy simulations of anisotropic weakly compressible turbulence with application to core-collapse supernovae. <i>Computational Astrophysics and Cosmology</i> , 2015, 2, .	22.7	32
34	THE THREE-DIMENSIONAL EVOLUTION TO CORE COLLAPSE OF A MASSIVE STAR. <i>Astrophysical Journal Letters</i> , 2015, 808, L21.	3.0	125
35	THE ROLE OF TURBULENCE IN NEUTRINO-DRIVEN CORE-COLLAPSE SUPERNOVA EXPLOSIONS. <i>Astrophysical Journal</i> , 2015, 799, 5.	1.6	171
36	HIGH-RESOLUTION THREE-DIMENSIONAL SIMULATIONS OF CORE-COLLAPSE SUPERNOVAE IN MULTIPLE PROGENITORS. <i>Astrophysical Journal</i> , 2014, 785, 123.	1.6	107

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37	CHARACTERIZING THE CONVECTIVE VELOCITY FIELDS IN MASSIVE STARS. <i>Astrophysical Journal</i> , 2014, 795, 92.	1.6	18
38	AN IMPROVED MULTIPOLE APPROXIMATION FOR SELF-GRAVITY AND ITS IMPORTANCE FOR CORE-COLLAPSE SUPERNOVA SIMULATIONS. <i>Astrophysical Journal</i> , 2013, 778, 181.	1.6	57
39	MULTI-DIMENSIONAL SIMULATIONS OF ROTATING PAIR-INSTABILITY SUPERNOVAE. <i>Astrophysical Journal</i> , 2013, 776, 129.	1.6	54
40	ON THE IMPACT OF THREE DIMENSIONS IN SIMULATIONS OF NEUTRINO-DRIVEN CORE-COLLAPSE SUPERNOVA EXPLOSIONS. <i>Astrophysical Journal</i> , 2013, 775, 35.	1.6	101
41	REVIVAL OF THE STALLED CORE-COLLAPSE SUPERNOVA SHOCK TRIGGERED BY PRECOLLAPSE ASPHERICITY IN THE PROGENITOR STAR. <i>Astrophysical Journal Letters</i> , 2013, 778, L7.	3.0	165
42	RADIATION TRANSPORT FOR EXPLOSIVE OUTFLOWS: A MULTIGROUP HYBRID MONTE CARLO METHOD. <i>Astrophysical Journal, Supplement Series</i> , 2013, 209, 36.	3.0	57
43	THE DEPENDENCE OF THE NEUTRINO MECHANISM OF CORE-COLLAPSE SUPERNOVAE ON THE EQUATION OF STATE. <i>Astrophysical Journal</i> , 2013, 765, 29.	1.6	59
44	ASPHERICAL SUPERNOVA SHOCK BREAKOUT AND THE OBSERVATIONS OF SUPERNOVA 2008D. <i>Astrophysical Journal</i> , 2011, 727, 104.	1.6	56
45	COLLAPSTAR ACCRETION AND THE GAMMA-RAY BURST X-RAY LIGHT CURVE. <i>Astrophysical Journal</i> , 2010, 713, 800-815.	1.6	41
46	IDENTIFICATION OF FAINT <i>CHANDRA</i> X-RAY SOURCES IN THE CORE-COLLAPSED GLOBULAR CLUSTER NGC 6397: EVIDENCE FOR A BIMODAL CATAclysmic VARIABLE POPULATION. <i>Astrophysical Journal</i> , 2010, 722, 20-32.	1.6	52
47	ACCRETION ONTO INTERMEDIATE-MASS BLACK HOLES IN DENSE PROTOGALACTIC CLOUDS. <i>Astrophysical Journal</i> , 2009, 696, L146-L149.	1.6	118
48	ACCRETION ONTO "SEED" BLACK HOLES IN THE FIRST GALAXIES. <i>Astrophysical Journal</i> , 2009, 698, 766-780.	1.6	145
49	ASPHERICAL CORE-COLLAPSE SUPERNOVAE IN RED SUPERGIANTS POWERED BY NONRELATIVISTIC JETS. <i>Astrophysical Journal</i> , 2009, 696, 953-970.	1.6	67
50	Shock Vorticity Generation from Accelerated Ion Streaming in the Precursor of Ultrarelativistic Gamma-Ray Burst External Shocks. <i>Astrophysical Journal</i> , 2008, 688, 462-469.	1.6	19
51	The Shape of Cas A. <i>Astrophysical Journal</i> , 2008, 677, 1091-1099.	1.6	34