

Falk Herwig

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102
papers

6,821
citations

42
h-index

82
g-index

106
ext. papers

7,833
ext. citations

4.8
avg. IF

6.14
L-index

#	Paper	IF	Citations
102	MODULES FOR EXPERIMENTS IN STELLAR ASTROPHYSICS (MESA). <i>Astrophysical Journal, Supplement Series</i> , 2011 , 192, 3	8	2104
101	Evolution of Asymptotic Giant Branch Stars. <i>Annual Review of Astronomy and Astrophysics</i> , 2005 , 43, 435-479	4.7	611
100	The Elemental Abundances in Bare Planetary Nebula Central Stars and the Shell Burning in AGB Stars. <i>Publications of the Astronomical Society of the Pacific</i> , 2006 , 118, 183-204	5	228
99	The Supernova Channel of Super-AGB Stars. <i>Astrophysical Journal</i> , 2008 , 675, 614-625	4.7	213
98	THE WEAKs-PROCESS IN MASSIVE STARS AND ITS DEPENDENCE ON THE NEUTRON CAPTURE CROSS SECTIONS. <i>Astrophysical Journal</i> , 2010 , 710, 1557-1577	4.7	211
97	SIMULATING THE COMMON ENVELOPE PHASE OF A RED GIANT USING SMOOTHED-PARTICLE HYDRODYNAMICS AND UNIFORM-GRID CODES. <i>Astrophysical Journal</i> , 2012 , 744, 52	4.7	157
96	CONVECTIVE-REACTIVE PROTON-12C COMBUSTION IN SAKURAI'S OBJECT (V4334 SAGITTARII) AND IMPLICATIONS FOR THE EVOLUTION AND YIELDS FROM THE FIRST GENERATIONS OF STARS. <i>Astrophysical Journal</i> , 2011 , 727, 89	4.7	141
95	s-Process Nucleosynthesis in Asymptotic Giant Branch Stars: A Test for Stellar Evolution. <i>Astrophysical Journal</i> , 2003 , 586, 1305-1319	4.7	139
94	NUGRID STELLAR DATA SET. I. STELLAR YIELDS FROM H TO BI FOR STARS WITH METALLICITIES $Z = 0.02$ and $Z = 0.01$. <i>Astrophysical Journal, Supplement Series</i> , 2016 , 225, 24	8	133
93	ADVANCED BURNING STAGES AND FATE OF 8-10M STARS. <i>Astrophysical Journal</i> , 2013 , 772, 150	4.7	132
92	The s -Process in Massive Stars at Low Metallicity: The Effect of Primary 14 N from Fast Rotating Stars. <i>Astrophysical Journal</i> , 2008 , 687, L95-L98	4.7	121
91	Evolution and Yields of Extremely Metal-poor Intermediate-Mass Stars. <i>Astrophysical Journal, Supplement Series</i> , 2004 , 155, 651-666	8	102
90	The s-Process in Rotating Asymptotic Giant Branch Stars. <i>Astrophysical Journal</i> , 2003 , 593, 1056-1073	4.7	94
89	Dredge-up and Envelope Burning in Intermediate-Mass Giants of Very Low Metallicity. <i>Astrophysical Journal</i> , 2004 , 605, 425-435	4.7	88
88	Internal mixing and surface abundance of [WC]-CSPN. <i>Astrophysics and Space Science</i> , 2001 , 275, 15-26	1.6	77
87	The Evolutionary Timescale of Sakurai's Object: A Test of Convection Theory?. <i>Astrophysical Journal</i> , 2001 , 554, L71-L74	4.7	73
86	The effect of a wider initial separation on common envelope binary interaction simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017 , 464, 4028-4044	4.3	69

85	THE C-FLAME QUENCHING BY CONVECTIVE BOUNDARY MIXING IN SUPER-AGB STARS AND THE FORMATION OF HYBRID C/O/Ne WHITE DWARFS AND SN PROGENITORS. <i>Astrophysical Journal</i> , 2013 , 772, 37	4.7	69
84	GLOBAL NON-SPHERICAL OSCILLATIONS IN THREE-DIMENSIONAL 4D SIMULATIONS OF THE H-INGESTION FLASH. <i>Astrophysical Journal Letters</i> , 2014 , 792, L3	7.9	68
83	NuGrid stellar data set III. Stellar yields from H to Bi for stellar models with MZAMS = 105 M \odot and Z = 0.0010.02. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018 , 480, 538-571	4.3	66
82	THE $^{12}\text{C} + ^{12}\text{C}$ REACTION AND THE IMPACT ON NUCLEOSYNTHESIS IN MASSIVE STARS. <i>Astrophysical Journal</i> , 2013 , 762, 31	4.7	65
81	Supernova Fallback: A Possible Site for the r -Process. <i>Astrophysical Journal</i> , 2006 , 646, L131-L134	4.7	64
80	FLUORINE AND SODIUM IN C-RICH LOW-METALLICITY STARS,. <i>Astrophysical Journal</i> , 2011 , 729, 40	4.7	63
79	H ingestion into He-burning convection zones in super-AGB stellar models as a potential site for intermediate neutron-density nucleosynthesis. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016 , 455, 3848-3863	4.3	61
78	MESA MODELS OF CLASSICAL NOVA OUTBURSTS: THE MULTICYCLE EVOLUTION AND EFFECTS OF CONVECTIVE BOUNDARY MIXING. <i>Astrophysical Journal</i> , 2013 , 762, 8	4.7	58
77	i-process Nucleosynthesis and Mass Retention Efficiency in He-shell Flash Evolution of Rapidly Accreting White Dwarfs. <i>Astrophysical Journal Letters</i> , 2017 , 834, L10	7.9	56
76	New insights on Ba overabundance in open clusters.? Evidence for the intermediate neutron-capture process at play?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015 , 446, 3651-3668	4.3	54
75	HYDRODYNAMIC SIMULATIONS OF H ENTRAINMENT AT THE TOP OF He-SHELL FLASH CONVECTION. <i>Astrophysical Journal</i> , 2015 , 798, 49	4.7	53
74	Hydrodynamic Simulations of He Shell Flash Convection. <i>Astrophysical Journal</i> , 2006 , 642, 1057-1074	4.7	53
73	Idealized hydrodynamic simulations of turbulent oxygen-burning shell convection in 4D geometry. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017 , 465, 2991-3010	4.3	52
72	BARIUM ISOTOPIC COMPOSITION OF MAINSTREAM SILICON CARBIDES FROM MURCHISON: CONSTRAINTS FOR s-PROCESS NUCLEOSYNTHESIS IN ASYMPTOTIC GIANT BRANCH STARS. <i>Astrophysical Journal</i> , 2014 , 786, 66	4.7	52
71	Nuclear Reaction Rates and Carbon Star Formation. <i>Astrophysical Journal</i> , 2004 , 613, L73-L76	4.7	52
70	APPLICATION OF A THEORY AND SIMULATION-BASED CONVECTIVE BOUNDARY MIXING MODEL FOR AGB STAR EVOLUTION AND NUCLEOSYNTHESIS. <i>Astrophysical Journal</i> , 2016 , 827, 30	4.7	49
69	The dependence of the evolution of Type Ia SN progenitors on the C-burning rate uncertainty and parameters of convective boundary mixing. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014 , 440, 1274-1280	4.3	49
68	THE DIVERSE ORIGINS OF NEUTRON-CAPTURE ELEMENTS IN THE METAL-POOR STAR HD 94028: POSSIBLE DETECTION OF PRODUCTS OF i-PROCESS NUCLEOSYNTHESIS. <i>Astrophysical Journal</i> , 2016 , 821, 37	4.7	48

67	CARBON-RICH PRESOLAR GRAINS FROM MASSIVE STARS: SUBSOLAR 12 C/ 13 C AND 14 N/ 15 N RATIOS AND THE MYSTERY OF 15 N. <i>Astrophysical Journal Letters</i> , 2015 , 808, L43	7.9	46
66	Hybrid C/Ne white dwarfs as progenitors of Type Ia supernovae: dependence on Urca process and mixing assumptions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015 , 447, 2696-2705	4.3	45
65	Nuclear reaction rate uncertainties and astrophysical modeling: Carbon yields from low-mass giants. <i>Physical Review C</i> , 2006 , 73,	2.7	45
64	The real-time stellar evolution of Sakurai's object. <i>Science</i> , 2005 , 308, 231-3	33.3	45
63	The primordial and evolutionary abundance variations in globular-cluster stars: a problem with two unknowns. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015 , 448, 3314-3324	4.3	44
62	The Impact of Modeling Assumptions in Galactic Chemical Evolution Models. <i>Astrophysical Journal</i> , 2017 , 835, 128	4.7	42
61	Pop III i-process nucleosynthesis and the elemental abundances of SMSS J031338.708 and the most iron-poor stars. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2018 , 474, L37-L41	4.3	42
60	Resonance neutron-capture cross sections of stable magnesium isotopes and their astrophysical implications. <i>Physical Review C</i> , 2012 , 85,	2.7	41
59	The effect of 12C +12C rate uncertainties on the evolution and nucleosynthesis of massive stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2012 , 420, 3047-3070	4.3	41
58	EVIDENCE FOR RADIOGENIC SULFUR-32 IN TYPE AB PRESOLAR SILICON CARBIDE GRAINS?. <i>Astrophysical Journal Letters</i> , 2013 , 776, L29	7.9	41
57	UNCERTAINTIES IN GALACTIC CHEMICAL EVOLUTION MODELS. <i>Astrophysical Journal</i> , 2016 , 824, 82	4.7	34
56	The i-process yields of rapidly accreting white dwarfs from multicycle He-shell flash stellar evolution models with mixing parametrizations from 3D hydrodynamics simulations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019 , 488, 4258-4270	4.3	33
55	MESA and NuGrid simulations of classical novae: CO and ONe nova nucleosynthesis. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014 , 442, 2058-2074	4.3	33
54	PRODUCTION OF CARBON-RICH PRESOLAR GRAINS FROM MASSIVE STARS. <i>Astrophysical Journal Letters</i> , 2013 , 767, L22	7.9	33
53	Code dependencies of pre-supernova evolution and nucleosynthesis in massive stars: evolution to the end of core helium burning. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015 , 447, 3115-3129	4.3	32
52	Convective reactive nucleosynthesis of K, Sc, Cl and p-process isotopes in O/Ne shell mergers. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2018 , 474, L1-L6	4.3	28
51	DO R CORONAE BOREALIS STARS FORM FROM DOUBLE WHITE DWARF MERGERS?. <i>Astrophysical Journal</i> , 2012 , 757, 76	4.7	27
50	REPRODUCING THE OBSERVED ABUNDANCES IN RCB AND HdC STARS WITH POST-DOUBLE-DEGENERATE MERGER MODELS: CONSTRAINTS ON MERGER AND POST-MERGER SIMULATIONS AND PHYSICS PROCESSES. <i>Astrophysical Journal</i> , 2013 , 772, 59	4.7	26

49	SILICON CARBIDE GRAINS OF TYPE C PROVIDE EVIDENCE FOR THE PRODUCTION OF THE UNSTABLE ISOTOPE ^{32}Si IN SUPERNOVAE. <i>Astrophysical Journal Letters</i> , 2013 , 771, L7	7.9	25
48	TYPE Ia SUPERNOVA EXPLOSIONS FROM HYBRID CARBON-OXYGEN-NEON WHITE DWARF PROGENITORS. <i>Astrophysical Journal</i> , 2016 , 832, 13	4.7	24
47	Mass and metallicity requirement in stellar models for galactic chemical evolution applications. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016 , 463, 3755-3767	4.3	24
46	NuGrid stellar data set III. Updated low-mass AGB models and s-process nucleosynthesis with metallicities $Z = 0.01$, $Z = 0.02$, and $Z = 0.03$. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019 , 489, 1082-1098	4.3	23
45	RELICS OF ANCIENT POST-AGB STARS IN A PRIMITIVE METEORITE. <i>Astrophysical Journal Letters</i> , 2013 , 777, L27	7.9	22
44	i-process Contribution of Rapidly Accreting White Dwarfs to the Solar Composition of First-peak Neutron-capture Elements. <i>Astrophysical Journal</i> , 2018 , 854, 105	4.7	21
43	FROM THE COLOR-MAGNITUDE DIAGRAM OF ICENTAURI AND (SUPER-)ASYMPTOTIC GIANT BRANCH STELLAR MODELS TO A GALACTIC PLANE PASSAGE GAS PURGING CHEMICAL EVOLUTION SCENARIO. <i>Astrophysical Journal</i> , 2012 , 757, 132	4.7	21
42	3D hydrodynamic simulations of C ingestion into a convective O shell. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020 , 491, 972-992	4.3	20
41	Convective boundary mixing in a post-He core burning massive star model. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019 , 484, 3921-3934	4.3	19
40	SYGMA: Stellar Yields for Galactic Modeling Applications. <i>Astrophysical Journal, Supplement Series</i> , 2018 , 237, 42	8	19
39	The impact of (n, α) reaction rate uncertainties of unstable isotopes near $N = 50$ on the i-process nucleosynthesis in He-shell flash white dwarfs. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2018 , 45, 055203	2.9	16
38	Oxygen isotopic ratios in first dredge-up red giant stars and nuclear reaction rate uncertainties revisited. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003 , 340, 763-770	4.3	16
37	The formation of the ^{13}C pocket in Asymptotic Giant Branch stars and related nucleosynthesis. <i>Nuclear Physics A</i> , 2001 , 688, 217-220	1.3	15
36	Observing the metal-poor solar neighbourhood: a comparison of galactic chemical evolution predictions* <i>Monthly Notices of the Royal Astronomical Society</i> , 2017 , 469, 4378-4399	4.3	13
35	Large-scale simulations of turbulent stellar convection flows and the outlook for petascale computation. <i>Journal of Physics: Conference Series</i> , 2006 , 46, 370-384	0.3	12
34	Convective HHe interactions in massive population III stellar evolution models. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020 , 500, 2685-2703	4.3	11
33	The neutron capture process in the He shell in core-collapse supernovae: Presolar silicon carbide grains as a diagnostic tool for nuclear astrophysics. <i>Geochimica Et Cosmochimica Acta</i> , 2018 , 221, 37-46	5.5	10
32	Convective proton and ^3He ingestion into helium burning: Nucleosynthesis during a post-AGB thermal pulse. <i>Nuclear Physics A</i> , 2001 , 688, 221-224	1.3	10

31	The s process in rotating low-mass AGB stars. <i>Astronomy and Astrophysics</i> , 2019 , 629, A123	5.1	10
30	The NuGrid Research Platform: A Comprehensive Simulation Approach for Nuclear Astrophysics. <i>Nuclear Physics News</i> , 2012 , 22, 18-23	0.7	9
29	Cyberhubs: Virtual Research Environments for Astronomy. <i>Astrophysical Journal, Supplement Series</i> , 2018 , 236, 2	8	9
28	Experimentally well-constrained masses of 27P and 27S: Implications for studies of explosive binary systems. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2020 , 802, 135213 ²	4.2	8
27	R Coronae Borealis Star Evolution: Simulating 3D Merger Events to 1D Stellar Evolution Including Large-scale Nucleosynthesis. <i>Astrophysical Journal</i> , 2021 , 911, 103	4.7	5
26	Mixing Uncertainties in Low-Metallicity AGB Stars: The Impact on Stellar Structure and Nucleosynthesis. <i>Universe</i> , 2021 , 7, 25	2.5	5
25	Nuclear Burning and Mixing in the First Stars: Entrainment at a Convective Boundary Using the PPB Advection Scheme 2008 ,		4
24	Heavy elements nucleosynthesis on accreting white dwarfs: building seeds for the p-process. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020 , 497, 4981-4998	4.3	4
23	Simulating 3-D Stellar Hydrodynamics using PPM and PPB Multifluid Gas Dynamics on CPU and CPU+GPU Nodes. <i>Journal of Physics: Conference Series</i> , 2019 , 1225, 012020	0.3	3
22	Chromium Nucleosynthesis and Silicon-Carbon Shell Mergers in Massive Stars. <i>Astrophysical Journal</i> , 2020 , 892, 57	4.7	3
21	JINA-NuGrid Galactic Chemical Evolution Pipeline 2017 ,		3
20	Evolution of Solar and Intermediate-Mass Stars 2013 , 397-445		3
19	Shell-model studies of the astrophysical rp-process reactions $S34(p,n)Cl35$ and $Cl34g,m(p,n)Ar35$. <i>Physical Review C</i> , 2020 , 102,	2.7	3
18	The very fast evolution of Sakurai's object. <i>Proceedings of the International Astronomical Union</i> , 2016 , 12, 380-381	0.1	3
17	3D1D hydro-nucleosynthesis simulations II. Advective-reactive post-processing method and its application to H ingestion into He-shell flash convection in rapidly accreting white dwarfs. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021 , 504, 744-760	4.3	3
16	The Real-Time Evolution of V4334 Sgr. <i>Galaxies</i> , 2018 , 6, 79	2	3
15	Simulating Stellar Hydrodynamics at Extreme Scale. <i>Computing in Science and Engineering</i> , 2018 , 20, 8-171.5	1.5	3
14	Nucleosynthetic yields from neutron stars accreting in binary common envelopes. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019 , 485, 620-639	4.3	2

13	The impact of (n,γ) reaction rate uncertainties on the predicted abundances of i-process elements with $32 \leq Z \leq 48$ in the metal-poor star HD94028. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020 , 491, 5179-5187	4.3	2
12	The Evolution of Central Stars of Planetary Nebulae. <i>Proceedings of the International Astronomical Union</i> , 2006 , 2, 103	0.1	2
11	The Very Fast Evolution of V4334 Sgr. <i>EAS Publications Series</i> , 2015 , 71-72, 287-288	0.2	2
10	An evidence-based assumption that helps to reduce the discrepancy between the observed and predicted ^7Be abundances in novae. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2020 , 501, L33-L37	4.3	2
9	How Common Envelope Interactions Change the Lives of Stars and Planets. <i>Proceedings of the International Astronomical Union</i> , 2011 , 7, 517-520	0.1	1
8	H-He Shell Interactions and Nucleosynthesis in Massive Population III Stars. <i>Springer Proceedings in Physics</i> , 2019 , 321-325	0.2	1
7	The impact of (n,γ) reaction rate uncertainties of unstable isotopes on the i-process nucleosynthesis of the elements from Ba to W. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021 , 503, 3913-3925	4.3	1
6	$F19(p,\gamma)^{20}\text{Ne}$ and $F19(p,\gamma)^{20}\text{F}$ reaction rates and their effect on calcium production in Population III stars from hot CNO breakout. <i>Physical Review C</i> , 2021 , 103,	2.7	1
5	The Impact of Nuclear Physics Uncertainties on Galactic Chemical Evolution Predictions. <i>Journal of Physics: Conference Series</i> , 2020 , 1668, 012008	0.3	0
4	The NuGrid AGB Evolution and Nucleosynthesis Data Set. <i>Universe</i> , 2022 , 8, 170	2.5	0
3	The Second Stars 2006 , 21-47		
2	The Real-Time Evolution of Sakurai's Star (V4334 Sgr) and other (V)LTP Objects. <i>Proceedings of the International Astronomical Union</i> , 2006 , 2, 75	0.1	
1	Mixing and the s-Process in Rotating AGB Stars. <i>Symposium - International Astronomical Union</i> , 2004 , 215, 467-472		