

# Richard H D Townsend

## List of Publications by Year in descending order

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Version: 2024-02-01

52  
papers

9,074  
citations

186265

28  
h-index

265206

42  
g-index

52  
all docs

52  
docs citations

52  
times ranked

3824  
citing authors

#	ARTICLE	IF	CITATIONS
1	MODULES FOR EXPERIMENTS IN STELLAR ASTROPHYSICS (MESA): PLANETS, OSCILLATIONS, ROTATION, AND MASSIVE STARS. <i>Astrophysical Journal, Supplement Series</i> , 2013, 208, 4.	7.7	2,251
2	MODULES FOR EXPERIMENTS IN STELLAR ASTROPHYSICS (MESA): BINARIES, PULSATIONS, AND EXPLOSIONS. <i>Astrophysical Journal, Supplement Series</i> , 2015, 220, 15.	7.7	1,990
3	Modules for Experiments in Stellar Astrophysics ( $\{M\}\{E\}\{S\}\{A\}$ ): Convective Boundaries, Element Diffusion, and Massive Star Explosions. <i>Astrophysical Journal, Supplement Series</i> , 2018, 234, 34.	7.7	1,182
4	Modules for Experiments in Stellar Astrophysics (MESA): Pulsating Variable Stars, Rotation, Convective Boundaries, and Energy Conservation. <i>Astrophysical Journal, Supplement Series</i> , 2019, 243, 10.	7.7	860
5	CYRE: an open-source stellar oscillation code based on a new Magnus Multiple Shooting scheme. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 435, 3406-3418.	4.4	325
6	A magnetic confinement versus rotation classification of massive-star magnetospheres. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 429, 398-422.	4.4	208
7	Dynamical simulations of magnetically channelled line-driven stellar winds - III. Angular momentum loss and rotational spin-down. <i>Monthly Notices of the Royal Astronomical Society</i> , 2009, 392, 1022-1033.	4.4	199
8	Dynamical simulations of magnetically channelled line-driven stellar winds - II. The effects of field-aligned rotation. <i>Monthly Notices of the Royal Astronomical Society</i> , 0, 385, 97-108.	4.4	196
9	A rigidly rotating magnetosphere model for circumstellar emission from magnetic OB stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 0, 357, 251-264.	4.4	190
10	The MiMeS survey of magnetism in massive stars: introduction and overview. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 456, 2-22.	4.4	174
11	Angular momentum transport by heat-driven g-modes in slowly pulsating B stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 475, 879-893.	4.4	128
12	Asymptotic expressions for the angular dependence of low-frequency pulsation modes in rotating stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 340, 1020-1030.	4.4	119
13	A semi-analytical formula for the light variations due to low-frequency g modes in rotating stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 343, 125-136.	4.4	83
14	Sensitivity of gravito-inertial modes to differential rotation in intermediate-mass main-sequence stars. <i>Astronomy and Astrophysics</i> , 2018, 618, A24.	5.1	82
15	DISCOVERY OF ROTATIONAL BRAKING IN THE MAGNETIC HELIUM-STRONG STAR SIGMA ORIONIS E. <i>Astrophysical Journal Letters</i> , 2010, 714, L318-L322.	8.3	78
16	Centrifugal Breakout of Magnetically Confined Line-driven Stellar Winds. <i>Astrophysical Journal</i> , 2006, 640, L191-L194.	4.5	72
17	Magnetic massive stars as progenitors of $\text{â€}^{\text{heavy}}\text{â€}^{\text{TM}}$ stellar-mass black holes. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 466, 1052-1060.	4.4	72
18	A Rigid-Field Hydrodynamics approach to modelling the magnetospheres of massive stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 382, 139-157.	4.4	69

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19	A dynamical magnetosphere model for periodic H $\alpha$ emission from the slowly rotating magnetic O star HD 191612. Monthly Notices of the Royal Astronomical Society: Letters, 2012, 423, L21-L25.	3.3	68
20	Influence of the Coriolis force on the instability of slowly pulsating B stars. Monthly Notices of the Royal Astronomical Society, 2005, 360, 465-476.	4.4	67
21	Revisiting the Rigidly Rotating Magnetosphere model for Ori E - I. Observations and data analysis.... Monthly Notices of the Royal Astronomical Society, 2012, 419, 959-970.	4.4	64
22	Revisiting the rigidly rotating magnetosphere model for $\gamma$ Ori A $\epsilon$ II. Magnetic Doppler imaging, arbitrary field RRM, and light variability.... Monthly Notices of the Royal Astronomical Society, 2015, 451, 2015-2029.	4.4	57
23	First 3DMHD simulation of a massive-star magnetosphere with application to H $\alpha$ emission from $\beta$ Ori C. Monthly Notices of the Royal Astronomical Society, 2013, 428, 2723-2730.	4.4	56
24	Discovery of a strong magnetic field in the rapidly rotating B2 Vn star HR 7355. Monthly Notices of the Royal Astronomical Society: Letters, 2010, 405, L51-L55.	3.3	45
25	An "analytic dynamical magnetosphere" formalism for X-ray and optical emission from slowly rotating magnetic massive stars. Monthly Notices of the Royal Astronomical Society, 2016, 462, 3830-3844.	4.4	44
26	The effects of surface fossil magnetic fields on massive star evolution " II. Implementation of magnetic braking in mesa and implications for the evolution of surface rotation in OB stars. Monthly Notices of the Royal Astronomical Society, 2020, 493, 518-535.	4.4	40
27	<i>MOST</i> OBSERVATIONS OF $\gamma$ Ori E: CHALLENGING THE CENTRIFUGAL BREAKOUT NARRATIVE. Astrophysical Journal, 2013, 769, 33.	4.5	39
28	The Contour Method: a New Approach to Finding Modes of Nonadiabatic Stellar Pulsations. Astrophysical Journal, 2020, 899, 116.	4.5	38
29	Exploring the photometric signatures of magnetospheres around helium-strong stars. Monthly Notices of the Royal Astronomical Society, 2008, 389, 559-566.	4.4	37
30	Magnetic field detection in the B2 Vn star HR 7355. Monthly Notices of the Royal Astronomical Society: Letters, 2010, 405, L46-L50.	3.3	35
31	How the breakout-limited mass in B-star centrifugal magnetospheres controls their circumstellar H $\alpha$ emission. Monthly Notices of the Royal Astronomical Society, 2020, 499, 5366-5378.	4.4	28
32	The Impact of White Dwarf Luminosity Profiles on Oscillation Frequencies. Astrophysical Journal Letters, 2018, 867, L30.	8.3	22
33	Surface trapping and leakage of low-frequency g modes in rotating early-type stars-I. Qualitative analysis. Monthly Notices of the Royal Astronomical Society, 2000, 318, 1-8.	4.4	21
34	Super-Eddington stellar winds: unifying radiative-enthalpy versus flux-driven models. Monthly Notices of the Royal Astronomical Society, 2017, 472, 3749-3760.	4.4	19
35	POLARIMETRIC OBSERVATIONS OF $\gamma$ ORIONIS E. Astrophysical Journal Letters, 2013, 766, L9.	8.3	18
36	Surface trapping and leakage of low-frequency g modes in rotating early-type stars - II. Global analysis. Monthly Notices of the Royal Astronomical Society, 2002, 319, 289-304.	4.4	14

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37	Effect of a magnetic field on massive-star winds â€“ I. Mass-loss and velocity for a dipole field. Monthly Notices of the Royal Astronomical Society, 2016, 462, 3672-3688.	4.4	14
38	On the Impact of $^{22}\text{Ne}$ on the Pulsation Periods of Carbonâ€“Oxygen White Dwarfs with Helium-dominated Atmospheres. Astrophysical Journal, 2021, 910, 24.	4.5	14
39	TESS Asteroseismology of $\hat{\iota}$ Mensae: Benchmark Ages for a G7 Dwarf and Its M Dwarf Companion. Astrophysical Journal, 2021, 922, 229.	4.5	14
40	Nonradial Pulsations in Post-outburst Novae. Astrophysical Journal, 2018, 855, 127.	4.5	13
41	The Tayler Instability in the Anelastic Approximation. Astrophysical Journal, 2019, 881, 66.	4.5	11
42	WOCS 5379: Detailed Analysis of the Evolution of a Post-mass-transfer Blue Straggler. Astrophysical Journal, 2021, 908, 7.	4.5	9
43	Improved asymptotic expressions for the eigenvalues of Laplaceâ€™s tidal equations. Monthly Notices of the Royal Astronomical Society, 2020, 497, 2670-2679.	4.4	6
44	Stability and pulsation of the first dark stars. Monthly Notices of the Royal Astronomical Society, 2021, 503, 3677-3691.	4.4	3
45	Rigid Field Hydrodynamic simulations of the magnetosphere of $\zeta$ Orionis E. Proceedings of the International Astronomical Union, 2010, 6, 194-195.	0.0	0
46	Discussion â€“ Circumstellar environment of active OB stars. Proceedings of the International Astronomical Union, 2010, 6, 378-379.	0.0	0
47	Modeling the winds and magnetospheres of active OB stars. Proceedings of the International Astronomical Union, 2010, 6, 148-159.	0.0	0
48	Discovery of a strong magnetic field in the rapidly rotating B2Vn star HR 7355. Proceedings of the International Astronomical Union, 2010, 6, 204-205.	0.0	0
49	Monte-Carlo simulations of linear polarization in clumpy OB-star winds. Proceedings of the International Astronomical Union, 2010, 6, 216-217.	0.0	0
50	X-rays from magnetic massive OB stars. Proceedings of the International Astronomical Union, 2013, 9, 330-333.	0.0	0
51	Wind channeling, magnetospheres, and spindown of magnetic massive stars. Proceedings of the International Astronomical Union, 2013, 9, 320-329.	0.0	0
52	Effect of a Dipole Magnetic Field on Stellar Mass-Loss. Proceedings of the International Astronomical Union, 2016, 12, 242-245.	0.0	0