

Douglas Gough

List of Publications by Year in descending order

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135
papers

9,009
citations

66250

44
h-index

48101

92
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140
all docs

140
docs citations

140
times ranked

2586
citing authors

#	ARTICLE	IF	CITATIONS
1	The Current State of Solar Modeling. <i>Science</i> , 1996, 272, 1286-1292.	6.0	957
2	Helioseismic Studies of Differential Rotation in the Solar Envelope by the Solar Oscillations Investigation Using the Michelson Doppler Imager. <i>Astrophysical Journal</i> , 1998, 505, 390-417.	1.6	816
3	Solar interior structure and luminosity variations. <i>Solar Physics</i> , 1981, 74, 21-34.	1.0	638
4	Differential Rotation and Dynamics of the Solar Interior. <i>Science</i> , 1996, 272, 1300-1305.	6.0	326
5	Inevitability of a magnetic field in the Sun's radiative interior. <i>Nature</i> , 1998, 394, 755-757.	13.7	318
6	The depth of the solar convection zone. <i>Astrophysical Journal</i> , 1991, 378, 413.	1.6	301
7	Helioseismology: Oscillations as a Diagnostic of the Solar Interior. <i>Annual Review of Astronomy and Astrophysics</i> , 1984, 22, 593-619.	8.1	258
8	VIRGO: Experiment for helioseismology and solar irradiance monitoring. <i>Solar Physics</i> , 1995, 162, 101-128.	1.0	256
9	Internal rotation of the Sun. <i>Nature</i> , 1984, 310, 22-25.	13.7	241
10	STRUCTURE AND ROTATION OF THE SOLAR INTERIOR: INITIAL RESULTS FROM THE MDI MEDIUM-L PROGRAM. <i>Solar Physics</i> , 1997, 170, 43-61.	1.0	239
11	The Seismic Structure of the Sun. <i>Science</i> , 1996, 272, 1296-1300.	6.0	210
12	Speed of sound in the solar interior. <i>Nature</i> , 1985, 315, 378-382.	13.7	209
13	Title is missing!. <i>Solar Physics</i> , 1997, 170, 1-25.	1.0	195
14	Mixing-length theory for pulsating stars. <i>Astrophysical Journal</i> , 1977, 214, 196.	1.6	177
15	The Solar Spoon. <i>Nature</i> , 1972, 240, 262-264.	13.7	176
16	The effect of rotation and a buried magnetic field on stellar oscillations. <i>Monthly Notices of the Royal Astronomical Society</i> , 1990, 242, 25-55.	1.6	159
17	On the excitation mechanism in roAp stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 323, 362-372.	1.6	147
18	The Calibration of Stellar Convection Theories. <i>Monthly Notices of the Royal Astronomical Society</i> , 1976, 176, 589-607.	1.6	132

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19	The Influence of a Magnetic Field on Schwarzschild's Criterion for Convective Instability in an Ideally Conducting Fluid. <i>Monthly Notices of the Royal Astronomical Society</i> , 1966, 133, 85-98.	1.6	127
20	An asteroseismic signature of helium ionization. <i>Monthly Notices of the Royal Astronomical Society</i> , 2007, 375, 861-880.	1.6	126
21	Is the Sun helium-deficient?. <i>Nature</i> , 1980, 288, 544-547.	13.7	110
22	Magnetic perturbations to the acoustic modes of roAp stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2000, 319, 1020-1038.	1.6	104
23	Inverting helioseismic data. <i>Solar Physics</i> , 1985, 100, 65-99.	1.0	102
24	The Stability of a Solar Model to Non-Radial Oscillations. <i>Monthly Notices of the Royal Astronomical Society</i> , 1974, 169, 429-445.	1.6	99
25	Seismic Observations of the Solar Interior. <i>Annual Review of Astronomy and Astrophysics</i> , 1991, 29, 627-685.	8.1	99
26	On the interpretation of five-minute oscillations in solar spectrum line shifts. <i>Monthly Notices of the Royal Astronomical Society</i> , 1982, 198, 141-171.	1.6	95
27	The quest for the solar g modes. <i>Astronomy and Astrophysics Review</i> , 2010, 18, 197-277.	9.1	92
28	Calibration of the Thickness of the Solar Tachocline. <i>Astrophysical Journal</i> , 1999, 516, 475-481.	1.6	90
29	Slow rotation of the Sun's interior. <i>Nature</i> , 1995, 376, 669-672.	13.7	88
30	On model predictions of the power spectral density of radial solar p modes. <i>Monthly Notices of the Royal Astronomical Society</i> , 2005, 360, 859-868.	1.6	86
31	Sources of uncertainty in direct seismological measurements of the solar helium abundance. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 259, 536-558.	1.6	83
32	Modal equations for cellular convection. <i>Journal of Fluid Mechanics</i> , 1975, 68, 695-719.	1.4	80
33	Towards a heliological inverse problem. <i>Nature</i> , 1976, 259, 89-92.	13.7	74
34	Differential asymptotic sound-speed inversions. <i>Monthly Notices of the Royal Astronomical Society</i> , 1989, 238, 481-502.	1.6	74
35	Modelling pulsation amplitudes of α Hydræ. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 336, L65-L69.	1.6	70
36	Prospects for Measuring Differential Rotation in White Dwarfs through Asteroseismology. <i>Astrophysical Journal</i> , 1999, 516, 349-365.	1.6	67

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37	Effluent stellar pulsation. <i>Astrophysical Journal</i> , 1990, 362, 256.	1.6	65
38	Weakly interacting massive particles and solar oscillations. <i>Nature</i> , 1986, 321, 226-229.	13.7	64
39	Numerical solutions of single-mode convection equations. <i>Journal of Fluid Mechanics</i> , 1977, 79, 1-31.	1.4	62
40	Perspectives in Helioseismology. <i>Science</i> , 1996, 272, 1281-1283.	6.0	58
41	A new measure of the solar rotation. <i>Monthly Notices of the Royal Astronomical Society</i> , 1981, 196, 731-745.	1.6	57
42	Seismological measurement of stellar ages. <i>Nature</i> , 1987, 326, 257-259.	13.7	56
43	Internal rotation and gravitational quadrupole moment of the Sun. <i>Nature</i> , 1982, 298, 334-339.	13.7	55
44	Structural changes to the Sun through the solar cycle. <i>Monthly Notices of the Royal Astronomical Society</i> , 1996, 278, 437-448.	1.6	50
45	Temporal variations in the Sun's rotational kinetic energy. <i>Astronomy and Astrophysics</i> , 2008, 477, 657-663.	2.1	50
46	An elementary introduction to the JWKB approximation. <i>Astronomische Nachrichten</i> , 2007, 328, 273-285.	0.6	44
47	A new inversion for the hydrostatic stratification of the sun. , 1991, , 111-120.		44
48	Asymptotic Sound-Speed Inversions. , 1986, , 125-140.		41
49	Sensitivity of five minute eigenfrequencies to the structure of the sun. , 1980, , 307-312.		40
50	Seismology of the solar envelope: sound-speed gradient in the convection zone and its diagnosis of the equation of state. <i>Monthly Notices of the Royal Astronomical Society</i> , 2000, 316, 71-83.	1.6	38
51	The current state of stellar mixing-length theory. , 1977, , 15-56.		37
52	How Oblate Is the Sun?. <i>Science</i> , 2012, 337, 1611-1612.	6.0	35
53	An introduction to the solar tachocline. , 2007, , 3-30.		34
54	On the seismic age and heavy-element abundance of the Sun. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 418, 1217-1230.	1.6	34

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55	Seismology of the solar envelope: measuring the acoustic phase shift generated in the outer layers. Monthly Notices of the Royal Astronomical Society, 1995, 273, 573-582.	1.6	33
56	Our first inferences from helioseismology. Physics Bulletin, 1983, 34, 502-507.	0.0	32
57	Sensitivity of solar eigenfrequencies to the age of the sun. Solar Physics, 1990, 128, 143-160.	1.0	32
58	On the Implications of the Symmetric Component of the Frequency Splitting Reported by Duvall, Harvey and Pomerantz. , 1988, , 175-180.		26
59	Time-dependent solutions of multimode convection equations. Journal of Fluid Mechanics, 1982, 125, 99.	1.4	25
60	HELIOSEISMIC DETECTION OF DEEP MERIDIONAL FLOW. Astrophysical Journal, 2010, 714, 960-970.	1.6	25
61	Mixing-length theory and the excitation of solar acoustic oscillations. Solar Physics, 1990, 128, 161-193.	1.0	22
62	Using Helioseismic Data to Probe the Hydrogen Abundance in the Solar Core. Astrophysics and Space Science Library, 1990, , 327-340.	1.0	22
63	Evidence for an oblique magnetic solar rotator. Nature, 1982, 298, 350-354.	13.7	19
64	On the hydrostatic stratification of the solar tachocline. Monthly Notices of the Royal Astronomical Society, 2018, 477, 3845-3852.	1.6	18
65	What Have We Learned from Helioseismology, What Have We Really Learned, and What Do We Aspire to Learn?. Solar Physics, 2013, 287, 9-41.	1.0	16
66	Magnetic Perturbations to Stellar Oscillation Eigenfrequencies. , 1988, , 155-160.		16
67	Sizing up the Sun. Nature, 2001, 410, 313-314.	13.7	15
68	Stellar structure: Beginnings of asteroseismology. Nature, 1985, 314, 14-15.	13.7	14
69	Constrained estimates of low-degree mode frequencies and the determination of the interior structure of the Sun. Solar Physics, 1995, 157, 1-15.	1.0	14
70	TESTING SOLAR MODELS: THE INVERSE PROBLEM. , 1996, , 141-230.		14
71	Nonradial and nonlinear stellar pulsation. Nature, 1979, 278, 685-686.	13.7	13
72	The power of helioseismology to address issues of fundamental physics. AIP Conference Proceedings, 2004, , .	0.3	13

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73	Inferring Spatial Variation of Solar Properties from Helioseismic Data. <i>Astrophysical Journal</i> , 1996, 459, 779.	1.6	13
74	Single-mode theory of diffusive layers in thermohaline convection. <i>Journal of Fluid Mechanics</i> , 1982, 125, 75.	1.4	12
75	An upper bound to the periods of radial pulsation of the Sun. <i>Monthly Notices of the Royal Astronomical Society</i> , 1983, 203, 165-179.	1.6	12
76	Gravity waves with a new spin. <i>Nature</i> , 1997, 388, 324-325.	13.7	12
77	On the Principal Asteroseismic Diagnostic Signatures. <i>Astrophysics and Space Science</i> , 2003, 284, 165-185.	0.5	11
78	Variability in mode amplitudes in the rapidly oscillating Ap star HRâ€f1217. <i>Monthly Notices of the Royal Astronomical Society</i> , 2011, 415, 1638-1646.	1.6	11
79	Is the Sun a Magnet?. <i>Solar Physics</i> , 2017, 292, 1.	1.0	11
80	A Critical Evaluation of Recent Claims Concerning Solar Rotation. <i>Astrophysical Journal</i> , 2019, 877, 42.	1.6	11
81	Shaky clues to solar activity. <i>Nature</i> , 1990, 345, 768-769.	13.7	10
82	On the effect of error correlation on linear inversions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 335, 170-176.	1.6	10
83	Some Glimpses from Helioseismology at the Dynamics of the Deep Solar Interior. <i>Space Science Reviews</i> , 2015, 196, 15-47.	3.7	10
84	Solar structure: A bridge in a gap in solar oscillations. <i>Nature</i> , 1983, 302, 18-18.	13.7	9
85	Geminga and the 160-min solar oscillation. <i>Nature</i> , 1984, 308, 160-162.	13.7	9
86	Deep roots of solar cycles. <i>Nature</i> , 1988, 336, 618-619.	13.7	9
87	Seismic Constraints on the Solar Neutrino Problem. <i>Annals of the New York Academy of Sciences</i> , 1991, 647, 199-217.	1.8	9
88	Towards Understanding Solar Convection and Activity â€œ (Invited Review). , 2000, 192, 3-26.		9
89	Progress report on solar age calibration. <i>Proceedings of the International Astronomical Union</i> , 2008, 4, 149-156.	0.0	9
90	Pattern formation in rapidly oscillating peculiar A stars. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2012, 106, 429-449.	0.4	9

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91	ASTRONOMY: Enhanced: The Birth of Asteroseismology. Science, 2001, 291, 2325-2327.	6.0	9
92	Climate and variability in the solar constant. Nature, 1980, 288, 639-640.	13.7	8
93	The Effect of the Solar Cycle on the Resonant Coupling of g Modes. International Astronomical Union Colloquium, 2000, 176, 390-390.	0.1	8
94	Some recent and future helioseismological inferences concerning the solar convection zone. Proceedings of the International Astronomical Union, 2010, 6, 3-14.	0.0	8
95	Seiches in supergranules. Nature, 1976, 264, 424-426.	13.7	7
96	Seismic consequence of the Shoemaker-Levy impact. Monthly Notices of the Royal Astronomical Society, 1994, 269, L17-L20.	1.6	7
97	Waves in the wind. Nature, 1995, 376, 120-121.	13.7	7
98	On the magnetic field required for driving the observed angular-velocity variations in the solar convection zone. Monthly Notices of the Royal Astronomical Society, 2013, 428, 470-475.	1.6	7
99	On the Composition of the Solar Interior Rapporteur Paper I. Space Science Reviews, 1998, 85, 141-158.	3.7	6
100	Anticipating the Sun's heavy-element abundance. Monthly Notices of the Royal Astronomical Society: Letters, 2019, 485, L114-L115.	1.2	6
101	Helioseismology: Oscillations as a probe of the Sun's interior. Nature, 1983, 304, 689-690.	13.7	5
102	Solar physics: What causes the solar cycle?. Nature, 1986, 319, 263-264.	13.7	5
103	Prediction of solar oscillation frequencies. Nature, 1988, 336, 720-720.	13.7	5
104	Solar oscillation. Nature, 1989, 338, 384-384.	13.7	5
105	Commentary on a putative magnetic field variation in the solar convection zone. Monthly Notices of the Royal Astronomical Society, 2013, 435, 3148-3158.	1.6	5
106	Stoked nondynamo: sustaining field in magnetically non-closed systems. New Journal of Physics, 2014, 16, 083002.	1.2	5
107	Sounding solar and stellar interiors: Conclusions and prospects. Symposium - International Astronomical Union, 1997, 181, 397-424.	0.1	4
108	Free energy of a screened ion pair. Journal of Mathematical Physics, 2000, 41, 260-283.	0.5	4

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109	On Estimating Fluxes due to Small-Scale Turbulent Convection in a Rotating Star. <i>ISRN Astronomy and Astrophysics</i> , 2012, 2012, 1-10.	0.2	4
110	Towards a helioseismic calibration of the equation of state in the solar convective envelope. , 1994, , 545-549.		3
111	Structure inversions with the VIRGO data. <i>Symposium - International Astronomical Union</i> , 1997, 181, 159-166.	0.1	3
112	Angular-Momentum Coupling Through the Tachocline. <i>Thirty Years of Astronomical Discovery With UKIRT</i> , 2010, , 68-85.	0.3	3
113	Open Questions. <i>Astrophysics and Space Science Library</i> , 1990, , 451-475.	1.0	3
114	Structure and Rotation of the Solar Interior: Initial Results from the MDI Medium-L Program. , 1997, , 43-61.		3
115	Using Helioseismic Data to Probe the Hydrogen Abundance in the Solar Core. <i>International Astronomical Union Colloquium</i> , 1990, 121, 327-340.	0.1	3
116	New data from solar oscillations. <i>Nature</i> , 1978, 274, 739-739.	13.7	2
117	Problems with solar oscillations. <i>Nature</i> , 1981, 293, 703-704.	13.7	2
118	What can we Learn from Oscillation Studies about Irradiance and Radius Changes?. <i>International Astronomical Union Colloquium</i> , 1994, 143, 252-263.	0.1	2
119	Towards A Helioseismic Calibration of The Equation of State of The Plasma in The Solar Convective Envelope. <i>International Astronomical Union Colloquium</i> , 1994, 147, 545-549.	0.1	1
120	Excitation Mechanism in roAp Stars. <i>International Astronomical Union Colloquium</i> , 2000, 176, 453-454.	0.1	1
121	Solar Neutrino Production. <i>Annales Henri Poincare</i> , 2003, 4, 303-317.	0.8	1
122	What we need to know about the Sun. <i>Proceedings of the International Astronomical Union</i> , 2004, 2004, 723.	0.0	1
123	Modelling turbulent fluxes due to thermal convection in rectilinear shearing flow. <i>Proceedings of the International Astronomical Union</i> , 2010, 6, 397-398.	0.0	1
124	Some Glimpses from Helioseismology at the Dynamics of the Deep Solar Interior. <i>Space Sciences Series of ISSI</i> , 2017, , 21-53.	0.0	1
125	On the Detection of Subphotospheric Convective Velocities and Temperature Fluctuations. <i>International Astronomical Union Colloquium</i> , 1983, 66, 401-410.	0.1	0
126	Solar equatorial rotation rate inferred from inversion of frequency splitting of high-degree modes. <i>Symposium - International Astronomical Union</i> , 1988, 123, 45-48.	0.1	0

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127	Helium diffusion in rapidly oscillating Ap stars. Symposium - International Astronomical Union, 1988, 123, 291-294.	0.1	0
128	Do solar models with weakly interacting massive particles reproduce the Stanford seismic data?. Symposium - International Astronomical Union, 1988, 123, 111-114.	0.1	0
129	Open Questions. International Astronomical Union Colloquium, 1990, 121, 451-475.	0.1	0
130	Some Remarks on Stellar Pulsation. International Astronomical Union Colloquium, 2000, 176, 528-537.	0.1	0
131	The New Era in Helioseismology. Symposium - International Astronomical Union, 2001, 203, 3-20.	0.1	0
132	Towards a Generalization of a Mixing-length Model for Nonradially Pulsating Stars: Convection in a Shear. Symposium - International Astronomical Union, 2001, 203, 115-117.	0.1	0
133	A personal view of the scientific career of Wojtek Dziembowski (perceived by an admirer from abroad). Proceedings of the International Astronomical Union, 2013, 9, 3-14.	0.0	0
134	Solar Neutrino Production. , 2003, , 303-317.		0
135	What Have We Learned from Helioseismology, What Have We Really Learned, and What Do We Aspire to Learn?., 2012, , 9-41.		0