Douglas Gough

List of Publications by Citations

123 papers	7,958 citations	44 h-index	88 g-index
139 ext. papers	8,500 ext. citations	17.6 avg, IF	5.64 L-index

#	Paper	IF	Citations
123	The Current State of Solar Modeling. *Science*, **1996**, 272, 1286-92	33.3	838
122	Helioseismic Studies of Differential Rotation in the Solar Envelope by the Solar Oscillations Investigation Using the Michelson Doppler Imager. *Astrophysical Journal*, **1998**, 505, 390-417	4.7	715
121	Solar interior structure and luminosity variations. *Solar Physics*, **1981**, 74, 21-34	2.6	539
120	Differential Rotation and Dynamics of the Solar Interior. *Science*, **1996**, 272, 1300-5	33.3	291
119	Inevitability of a magnetic field in the Sun's radiative interior. *Nature*, **1998**, 394, 755-757	50.4	286
118	The depth of the solar convection zone. *Astrophysical Journal*, **1991**, 378, 413	4.7	268
117	Helioseismology: Oscillations as a Diagnostic of the Solar Interior. *Annual Review of Astronomy and Astrophysics*, **1984**, 22, 593-619	31.7	233
116	VIRGO: Experiment for helioseismology and solar irradiance monitoring. *Solar Physics*, **1995**, 162, 101-128	2.6	224
115	Internal rotation of the Sun. *Nature*, **1984**, 310, 22-25	50.4	217
114	STRUCTURE AND ROTATION OF THE SOLAR INTERIOR: INITIAL RESULTS FROM THE MDI MEDIUM-L PROGRAM. *Solar Physics*, **1997**, 170, 43-61	2.6	204
113	The Seismic Structure of the Sun. *Science*, **1996**, 272, 1296-300	33.3	186
112	Speed of sound in the solar interior. *Nature*, **1985**, 315, 378-382	50.4	186
111	FIRST RESULTS FROM VIRGO, THE EXPERIMENT FOR HELIOSEISMOLOGY AND SOLAR IRRADIANCE MONITORING ON SOHO. *Solar Physics*, **1997**, 170, 1-25	2.6	175
110	Mixing-length theory for pulsating stars. *Astrophysical Journal*, **1977**, 214, 196	4.7	166
109	The Solar Spoon. *Nature*, **1972**, 240, 262-264	50.4	158
108	On the excitation mechanism in roAp stars. *Monthly Notices of the Royal Astronomical Society*, **2001**, 323, 362-372	4.3	134
107	The effect of rotation and a buried magnetic field on stellar oscillations. *Monthly Notices of the Royal Astronomical Society*, **1990**, 242, 25-55	4.3	131

106	The Calibration of Stellar Convection Theories. *Monthly Notices of the Royal Astronomical Society*, **1976**, 176, 589-607	4.3	122
105	An asteroseismic signature of helium ionization. *Monthly Notices of the Royal Astronomical Society*, **2007**, 375, 861-880	4.3	110
104	The Influence of a Magnetic Field on Schwarzschild's Criterion for Convective Instability in an Ideally Conducting Fluid. *Monthly Notices of the Royal Astronomical Society*, **1966**, 133, 85-98	4.3	109
103	Is the Sun helium-deficient?. *Nature*, **1980**, 288, 544-547	50.4	104
102	Magnetic perturbations to the acoustic modes of roAp stars. *Monthly Notices of the Royal Astronomical Society*, **2000**, 319, 1020-1038	4.3	96
101	Seismic Observations of the Solar Interior. *Annual Review of Astronomy and Astrophysics*, **1991**, 29, 627-685	35.7	91
100	Inverting helioseismic data. *Solar Physics*, **1985**, 100, 65-99	2.6	90
99	The Stability of a Solar Model to Non-Radial Oscillations. *Monthly Notices of the Royal Astronomical Society*, **1974**, 169, 429-445	4.3	90
98	On the interpretation of five-minute oscillations in solar spectrum line shifts. *Monthly Notices of the Royal Astronomical Society*, **1982**, 198, 141-171	4.3	85
97	The quest for the solar g modes. *Astronomy and Astrophysics Review*, **2010**, 18, 197-277	28.8	82
96	Slow rotation of the Sun's interior. *Nature*, **1995**, 376, 669-672	50.4	78
95	Calibration of the Thickness of the Solar Tachocline. *Astrophysical Journal*, **1999**, 516, 475-481	4.7	77
94	On model predictions of the power spectral density of radial solar p modes. *Monthly Notices of the Royal Astronomical Society*, **2005**, 360, 859-868	4.3	76
93	Sources of uncertainty in direct seismological measurements of the solar helium abundance. *Monthly Notices of the Royal Astronomical Society*, **1992**, 259, 536-558	4.3	74
92	Modal equations for cellular convection. *Journal of Fluid Mechanics*, **1975**, 68, 695-719	3.7	72
91	Differential asymptotic sound-speed inversions. *Monthly Notices of the Royal Astronomical Society*, **1989**, 238, 481-502	4.3	68
90	Modelling pulsation amplitudes of Hydrae. *Monthly Notices of the Royal Astronomical Society*, **2002**, 336, L65-L69	4.3	67
89	Towards a heliological inverse problem. *Nature*, **1976**, 259, 89-92	50.4	65

88	Weakly interacting massive particles and solar oscillations. *Nature*, **1986**, 321, 226-229	50.4	62
87	Prospects for Measuring Differential Rotation in White Dwarfs through Asteroseismology. *Astrophysical Journal*, **1999**, 516, 349-365	4.7	61
86	Effluent stellar pulsation. *Astrophysical Journal*, **1990**, 362, 256	4.7	58
85	Numerical solutions of single-mode convection equations. *Journal of Fluid Mechanics*, **1977**, 79, 1-31	3.7	54
84	Seismological measurement of stellar ages. *Nature*, **1987**, 326, 257-259	50.4	52
83	A new measure of the solar rotation. *Monthly Notices of the Royal Astronomical Society*, **1981**, 196, 731-745	4.3	50
82	Internal rotation and gravitational quadrupole moment of the Sun. *Nature*, **1982**, 298, 334-339	50.4	48
81	Structural changes to the Sun through the solar cycle. *Monthly Notices of the Royal Astronomical Society*, **1996**, 278, 437-448	4.3	45
80	Perspectives in Helioseismology. *Science*, **1996**, 272, 1281-4	33.3	44
79	Temporal variations in the Sun's rotational kinetic energy. *Astronomy and Astrophysics*, **2008**, 477, 657-663	5.1	42
78	A new inversion for the hydrostatic stratification of the sun **1991**, 111-120		42
77	An elementary introduction to the JWKB approximation. *Astronomische Nachrichten*, **2007**, 328, 273-285	0.7	41
76	Asymptotic Sound-Speed Inversions **1986**, 125-140		39
75	Sensitivity of five minute eigenfrequencies to the structure of the sun **1980**, 307-312		39
74	Seismology of the solar envelope: sound-speed gradient in the convection zone and its diagnosis of the equation of state. *Monthly Notices of the Royal Astronomical Society*, **2000**, 316, 71-83	4.3	34
73	The current state of stellar mixing-length theory **1977**, 15-56		34
72	Sensitivity of solar eigenfrequencies to the age of the sun. *Solar Physics*, **1990**, 128, 143-160	2.6	31
71	Our first inferences from helioseismology. *Physics Bulletin*, **1983**, 34, 502-507		31

70	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	4.3	30
69	Astronomy. How oblate is the Sun?. *Science*, **2012**, 337, 1611-2	33.3	29
68	On the seismic age and heavy-element abundance of the Sun. *Monthly Notices of the Royal Astronomical Society*, **2011**, 418, 1217-1230	4.3	29
67	An introduction to the solar tachocline3-30		28
66	On the Implications of the Symmetric Component of the Frequency Splitting Reported by Duvall, Harvey and Pomerantz **1988**, 175-180		25
65	HELIOSEISMIC DETECTION OF DEEP MERIDIONAL FLOW. *Astrophysical Journal*, **2010**, 714, 960-970	4.7	23
64	Time-dependent solutions of multimode convection equations. *Journal of Fluid Mechanics*, **1982**, 125, 99	3.7	22
63	Mixing-length theory and the excitation of solar acoustic oscillations. *Solar Physics*, **1990**, 128, 161-193	2.6	20
62	Evidence for an oblique magnetic solar rotator. *Nature*, **1982**, 298, 350-354	50.4	19
61	Using Helioseismic Data to Probe the Hydrogen Abundance in the Solar Core. *Astrophysics and Space Science Library*, **1990**, 327-340	0.3	18
60	On the hydrostatic stratification of the solar tachocline. *Monthly Notices of the Royal Astronomical Society*, **2018**, 477, 3845-3852	4.3	15
59	What Have We Learned from Helioseismology, What Have We Really Learned, and What Do We Aspire to Learn?. *Solar Physics*, **2013**, 287, 9-41	2.6	13
58	Magnetic Perturbations to Stellar Oscillation Eigenfrequencies **1988**, 155-160		13
57	Constrained estimates of low-degree mode frequencies and the determination of the interior structure of the Sun. *Solar Physics*, **1995**, 157, 1-15	2.6	12
56	An upper bound to the periods of radial pulsation of the Sun. *Monthly Notices of the Royal Astronomical Society*, **1983**, 203, 165-179	4.3	12
55	TESTING SOLAR MODELS: THE INVERSE PROBLEM **1996**, 141-230		12
54	The power of helioseismology to address issues of fundamental physics. *AIP Conference Proceedings*, **2004**,	0	11
53	On the Principal Asteroseismic Diagnostic Signatures. *Astrophysics and Space Science*, **2003**, 284, 165-185	1.6	11

52	Variability in mode amplitudes in the rapidly oscillating Ap star HR 1217. *Monthly Notices of the Royal Astronomical Society*, **2011**, 415, 1638-1646	4.3	10
51	Inferring Spatial Variation of Solar Properties from Helioseismic Data. *Astrophysical Journal*, **1996**, 459, 779	4.7	10
50	Is the Sun a Magnet?. *Solar Physics*, **2017**, 292, 1	2.6	8
49	Some Glimpses from Helioseismology at the Dynamics of the Deep Solar Interior. *Space Science Reviews*, **2015**, 196, 15-47	7.5	8
48	Pattern formation in rapidly oscillating peculiar A stars. *Geophysical and Astrophysical Fluid Dynamics*, **2012**, 106, 429-449	1.4	8
47	Progress report on solar age calibration. *Proceedings of the International Astronomical Union*, **2008**, 4, 149-156	0.1	8
46	On the effect of error correlation on linear inversions. *Monthly Notices of the Royal Astronomical Society*, **2002**, 335, 170-176	4.3	8
45	Towards Understanding Solar Convection and Activity (Invited Review) **2000**, 192, 3-26		8
44	Single-mode theory of diffusive layers in thermohaline convection. *Journal of Fluid Mechanics*, **1982**, 125, 75	3.7	8
43	Astronomy. The Birth of asteroseismology. *Science*, **2001**, 291, 2325-7	33.3	8
42	Solar Equatorial Rotation Rate Inferred From Inversion of Frequency Splitting of High-Degree Modes **1988**, 45-48		8
41	A Critical Evaluation of Recent Claims Concerning Solar Rotation. *Astrophysical Journal*, **2019**, 877, 42	4.7	7
40	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	4.3	7
39	Some recent and future helioseismological inferences concerning the solar convection zone. *Proceedings of the International Astronomical Union*, **2010**, 6, 3-14	0.1	7
38	The Effect of the Solar Cycle on the Resonant Coupling of g Modes. *International Astronomical Union Colloquium*, **2000**, 176, 390-390		7
37	Seismic consequence of the Shoemaker-Levy impact. *Monthly Notices of the Royal Astronomical Society*, **1994**, 269, L17-L20	4.3	7
36	Seismic Constraints on the Solar Neutrino Problem. *Annals of the New York Academy of Sciences*, **1991**, 647, 199-217	6.5	7
35	Geminga and the 160-min solar oscillation. *Nature*, **1984**, 308, 160-162	50.4	7

34	Seiches in supergranules. *Nature*, **1976**, 264, 424-426	50.4	6
33	Anticipating the Sun's heavy-element abundance. *Monthly Notices of the Royal Astronomical Society: Letters*, **2019**, 485, L114-L115	4.3	5
32	Commentary on a putative magnetic field variation in the solar convection zone. *Monthly Notices of the Royal Astronomical Society*, **2013**, 435, 3148-3158	4.3	5
31	Solar oscillation. *Nature*, **1989**, 338, 384-384	50.4	5
30	Prediction of solar oscillation frequencies. *Nature*, **1988**, 336, 720-720	50.4	5
29	Stoked nondynamos: sustaining field in magnetically non-closed systems. *New Journal of Physics*, **2014**, 16, 083002	2.9	4
28	On Estimating Fluxes due to Small-Scale Turbulent Convection in a Rotating Star. *ISRN Astronomy and Astrophysics*, **2012**, 2012, 1-10		4
27	On the Composition of the Solar Interior Rapporteur Paper I. *Space Science Reviews*, **1998**, 85, 141-158	7.5	4
26	Sounding solar and stellar interiors: Conclusions and prospects. *Symposium - International Astronomical Union*, **1997**, 181, 397-424		3
25	Free energy of a screened ion pair. *Journal of Mathematical Physics*, **2000**, 41, 260-283	1.2	3
24	Towards a helioseismic calibration of the equation of state in the solar convective envelope **1994**, 545-549		3
23	Angular-Momentum Coupling Through the Tachocline. *Thirty Years of Astronomical Discovery With UKIRT*, **2010**, 68-85	0.3	3
22	Structure and Rotation of the Solar Interior: Initial Results from the MDI Medium-L Program **1997**, 43-61		3
21	Structure inversions with the VIRGO data. *Symposium - International Astronomical Union*, **1997**, 181, 159-166		2
20	What can we Learn from Oscillation Studies about Irradiance and Radius Changes?. *International Astronomical Union Colloquium*, **1994**, 143, 252-263		2
19	Open Questions. *Astrophysics and Space Science Library*, **1990**, 451-475	0.3	2
18	Using Helioseismic Data to Probe the Hydrogen Abundance in the Solar Core. *International Astronomical Union Colloquium*, **1990**, 121, 327-340		2
17	What we need to know about the Sun. *Proceedings of the International Astronomical Union*, **2004**, 2004, 723	0.1	1

16	Excitation Mechanism in roAp Stars. *International Astronomical Union Colloquium*, **2000**, 176, 453-454		1
15	Towards A Helioseismic Calibration of The Equation of State of The Plasma in The Solar Convective Envelope. *International Astronomical Union Colloquium*, **1994**, 147, 545-549		1
14	Some Glimpses from Helioseismology at the Dynamics of the Deep Solar Interior. *Space Sciences Series of ISSI*, **2017**, 21-53	0.1	1
13	Modelling turbulent fluxes due to thermal convection in rectilinear shearing flow. *Proceedings of the International Astronomical Union*, **2010**, 6, 397-398	0.1	0
12	Solar Neutrino Production. *Annales Henri Poincare*, **2003**, 4, 303-317	1.2	0
11	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	0.1	
10	Some Remarks on Stellar Pulsation. *International Astronomical Union Colloquium*, **2000**, 176, 528-537		
9	The New Era in Helioseismology. *Symposium - International Astronomical Union*, **2001**, 203, 3-20		
8	Towards a Generalization of a Mixing-length Model for Nonradially Pulsating Stars: Convection in a Shear. *Symposium - International Astronomical Union*, **2001**, 203, 115-117		
7	Open Questions. *International Astronomical Union Colloquium*, **1990**, 121, 451-475		
6	Solar equatorial rotation rate inferred from inversion of frequency splitting of high-degree modes. *Symposium - International Astronomical Union*, **1988**, 123, 45-48		
5	Helium diffusion in rapidly oscillating Ap stars. *Symposium - International Astronomical Union*, **1988**, 123, 291-294		
4	Do solar models with weakly interacting massive particles reproduce the Stanford seismic data?. *Symposium - International Astronomical Union*, **1988**, 123, 111-114		
3	On the Detection of Subphotospheric Convective Velocities and Temperature Fluctuations*. *International Astronomical Union Colloquium*, **1983**, 66, 401-410		
2	Solar Neutrino Production **2003**, 303-317		
1	What Have We Learned from Helioseismology, What Have We Really Learned, and What Do We Aspire to Learn? **2012**, 9-41		