

# Gunnar Hornig

## List of Publications by Year in descending order

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33  
papers

1,291  
citations

394421

19  
h-index

395702

33  
g-index

34  
all docs

34  
docs citations

34  
times ranked

703  
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological constraints in the reconnection of vortex braids. <i>Physics of Fluids</i> , 2021, 33, .	4.0	5
2	Evolution of field line helicity in magnetic relaxation. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	3
3	The Parker problem: existence of smooth force-free fields and coronal heating. <i>Living Reviews in Solar Physics</i> , 2020, 17, 1.	22.0	19
4	Do Current and Magnetic Helicities Have the Same Sign?. <i>Astrophysical Journal</i> , 2019, 884, 55.	4.5	7
5	Estimating the Rate of Field Line Braiding in the Solar Corona by Photospheric Flows. <i>Astrophysical Journal</i> , 2018, 864, 157.	4.5	9
6	Quantifying the tangling of trajectories using the topological entropy. <i>Chaos</i> , 2017, 27, 093102.	2.5	9
7	On the Magnetic Squashing Factor and the Lie Transport of Tangents. <i>Astrophysical Journal</i> , 2017, 848, 117.	4.5	15
8	Magnetic field line braiding in the solar atmosphere. <i>Proceedings of the International Astronomical Union</i> , 2016, 12, 77-81.	0.0	0
9	The global distribution of magnetic helicity in the solar corona. <i>Astronomy and Astrophysics</i> , 2016, 594, A98.	5.1	32
10	THE DEPENDENCE OF CORONAL LOOP HEATING ON THE CHARACTERISTICS OF SLOW PHOTOSPHERIC MOTIONS. <i>Astrophysical Journal</i> , 2016, 824, 19.	4.5	9
11	Braided magnetic fields: equilibria, relaxation and heating. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 054008.	2.1	20
12	Physical role of topological constraints in localized magnetic relaxation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015, 471, 20150012.	2.1	17
13	THE STRUCTURE OF CURRENT LAYERS AND DEGREE OF FIELD-LINE BRAIDING IN CORONAL LOOPS. <i>Astrophysical Journal</i> , 2015, 805, 47.	4.5	26
14	Evolution of field line helicity during magnetic reconnection. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	44
15	Unique topological characterization of braided magnetic fields. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	29
16	Lagrangian coherent structures in photospheric flows and their implications for coronal magnetic structure. <i>Astronomy and Astrophysics</i> , 2012, 539, A1.	5.1	26
17	Dynamical constraints from field line topology in magnetic flux tubes. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 265501.	2.1	18
18	A generalized flux function for three-dimensional magnetic reconnection. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	29

#	ARTICLE	IF	CITATIONS
19	Dynamics of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2011, 525, A57.	5.1	75
20	Heating of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2011, 536, A67.	5.1	40
21	Topological Constraints on Magnetic Relaxation. <i>Physical Review Letters</i> , 2010, 105, 085002.	7.8	57
22	Dynamics of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2010, 516, A5.	5.1	67
23	Dynamic non-null magnetic reconnection in three dimensionsâ€“II: composite solutions. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2009, 103, 515-534.	1.2	7
24	On the solutions of three-dimensional non-null magnetic reconnection. <i>Physics of Plasmas</i> , 2009, 16, 082101.	1.9	1
25	MAGNETIC BRAIDING AND PARALLEL ELECTRIC FIELDS. <i>Astrophysical Journal</i> , 2009, 696, 1339-1347.	4.5	55
26	MAGNETIC BRAIDING AND QUASI-SEPARATRIX LAYERS. <i>Astrophysical Journal</i> , 2009, 704, 1288-1295.	4.5	49
27	Coronal Magnetic Topologies in a Spherical Geometry I. Two Bipolar Flux Sources. <i>Solar Physics</i> , 2006, 235, 259-280.	2.5	9
28	Dynamic accessibility of inflow and outflow reconnective solutions. <i>Physics of Plasmas</i> , 2005, 12, 112902.	1.9	6
29	A fully magnetohydrodynamic simulation of three-dimensional non-null reconnection. <i>Physics of Plasmas</i> , 2005, 12, 052307.	1.9	36
30	On the nature of three-dimensional magnetic reconnection. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	107
31	Evolution of magnetic flux in an isolated reconnection process. <i>Physics of Plasmas</i> , 2003, 10, 2712-2721.	1.9	77
32	Towards a third-order topological invariant for magnetic fields. <i>Journal of Physics A</i> , 2002, 35, 3945-3959.	1.6	21
33	Theory of magnetic connectivity in the solar corona. <i>Journal of Geophysical Research</i> , 2002, 107, SSH 3-1-SSH 3-13.	3.3	364