

Curriculum vitae of Axel Brandenburg

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Address

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Education

- Dr. Phil., University of Helsinki, May 1990, Doctoral dissertation: *Challenges for solar dynamo theory: -e ect, differential rotation and stability*, ISBN 952-90-1697-2
Lic. Phil., University of Helsinki, February 1989, Licentiate thesis: *Kinematic dynamo theory and the solar activity cycle*
Dipl. Phys., University of Hamburg, January 1986, Diploma thesis: *Hydrodynamics of convective bubbles in linear approximation*

Employment

- Jan. 2007 { present: Professor of Astrophysics, Stockholm Observatory, NORDITA, Stockholm
Aug. 2015 { May 2018: Visiting Professor, University of Colorado, Boulder (LASP, APS, and JILA)
Jan. 2000 { Dec. 2006: Professor of Astrophysics, NORDITA, Copenhagen
Feb. 1996 { Dec. 2000: Professor of Applied Mathematics, University of Newcastle upon Tyne
Dec. 1994 { Jan. 1996: Nordic Assistant Professor, Nordita, Copenhagen
Dec. 1992 { Nov. 1994: Postdoctoral Research Fellow, High Altitude Observatory/NCAR, Boulder
Mar. 1992 Docent of Astronomy, University of Helsinki
Aug. 1992 { Nov. 1992: Visiting Fellowship, University of Cambridge
Sep. 1990 { Aug. 1992: Postdoctoral Research Fellow, Nordita, Copenhagen

Publications

Below the numbers of publications (published or in print) and the h indexes (from Web of science, ResearcherID: I-6668-2013), the Astrophysical Data Service (ADS), and Google Scholar (GS); see also:
<http://www.nordita.org/~brandenb/papers/pub/pub.html>

Number of papers in refereed journals: 377 + 12 submitted

Number of invited conference reviews: 38

Number of communications to scientific meetings: 85

Total number of citations: 12894, h -index 56 (on Web of Science); 13947, h -index 57 (ADS); and 19381, h -index: 67 (on Google Scholar)

Important papers

The second column refers to the paper number in the full list of publications,
<http://www.nordita.org/~brandenb/pub/node1.html>

Citations are from Web of Science (WoS), Astrophysical Data Service (ADS), and Google Scholar (GS).

paper:	#	citations		
		WoS	ADS	GS
Brandenburg & Subramanian (2005)	A.153	801	888	1197
Beck, Brandenburg et al. (1996)	A.58	673	730	995
Brandenburg et al. (1995)	A.44	611	637	891
Brandenburg (2001)	A.98	357	385	548
Brandenburg (2005)	A.145	226	254	329
Haugen, Brandenburg, & Dobler (2004)	A.133	195	213	274
Saar & Brandenburg (1999)	A.90	189	215	277
Nordlund, Brandenburg, et al. (1992)	A.22	200	205	271
Brandenburg et al. (1996)	A.52	174	179	237
Brandenburg, Enqvist, & Olesen (1996)	A.54	161	179	238
Brandenburg et al. (1989)	A.3	162	166	202
Dobler, Brandenburg, & Stix (2006)	A.159	140	154	213
Brandenburg & Dobler (2002)	A.111	136	141	192
Korpi, Brandenburg, et al. (1999)	A.82	114	145	186
Blackman & Brandenburg (2002)	A.115	125	139	171
Rüdiger & Brandenburg (1995)	A.41	136	128	168
Pudritz et al. (2007)	B.25		209	146

PhD students

Stephen J. Brooks:	1996{2000	(Newcastle upon Tyne)
Alberto Bigazzi:	1996{2000	(Newcastle upon Tyne and L'Aquila, Rome)
Maarit J. Korpi:	1997{1999	(Oulu U)
Nils E. L. Haugen	2000{2004	(Trondheim, NTNU)
Tarek A. Yousef	2000{2004	(Trondheim, NTNU)
Antony J. Mee	2002{2006	(Newcastle upon Tyne, co-supervisor)
Simon Candelaresi	2009{2012	(Stockholm U, Phil. Lic. in Feb. 2011)
Fabio Del Sordo	2009{2012	(Stockholm U, Phil. Lic. in Feb. 2011)
Koen Kemel	2009{2012	(Stockholm U, Phil. Lic. in Aug 2011)
Jörn Warnecke	2009{2013	(Stockholm U, Phil. Lic. in May 2011)
Sarah Jabbari	2012{2016	(Stockholm U, Phil. Lic. in May 2014)
Xiang-Yu Li	2014{2018	(Stockholm U, Phil. Lic. in May 2016)
Illa R. Losada	2013{	(Stockholm U, Phil. Lic. in Dec 2014)
Alberto Roper Pol	2017{	(University of Colorado)

Teaching experience

- { *Search for Life in the Universe* (44 hours) at CU-Boulder, for non-science majors (2017, spring+fall)
- { *Fluid Instabilities, Waves, & Turbulence* (44 hours) at CU-Boulder, graduate level (2016)
- { *Solar & Space Physics* (44 hours) at CU-Boulder, upper undergraduate level (2016)
- { *Astrophysical Fluid Dynamics* (7.5 ECTS) at Stockholm U, postgraduate level (2013)
- { *Astrophysical Magnetohydrodynamics* (7.5 ECTS) at Stockholm U, master level (2012)
- { *Solar Physics and Magnetohydrodynamics* (7.5 ECTS) at Stockholm U, postgraduate level (2009)
- { *Pencil Code tutorials*, taught in Trieste (Italy, 2009) and Aussois (France, 2009)
- { *Solar Physics*, (12 hours) at the IRF Kiruna (2005, 2006, 2007, 2008), postgraduate level
- { *Planetary and Stellar Orbits*, (24 hours) at University of Newcastle upon Tyne (1998, 1999, 2000), second year students

{ *Introduction to Astrophysical Fluids*, (24 hours) at University of Newcastle upon Tyne (1997, 1998, 1999), second year students

{ *Fluid Flow and Cosmic Fluids*, (24 hours) at University of Newcastle upon Tyne (1997, 1998, 1999), third year students

{ *Relativistic Fluid Dynamics and Visualization*, (24 hours) at Copenhagen University (1995/1996), shared with Ake Nordlund, postgraduate level

Notable recognition

Elected foreign member of the Royal Swedish Academy of Sciences (since 2014)

Major grants

- NSF Astronomy and Astrophysics Research Grants (AAG), "Collaborative research: A Comprehensive Theoretical Study of Cosmic Magnetic Fields their Origin, Evolution, and Signatures" 1615100, July 2016 { June 2019, \$224.040K, as Co-I/Institutional PI (PI: Tina Kahniashvili, Carnegie Mellon University)
- Knut & Alice Wallenberg Foundation, "Bottlenecks for the growth of particles suspended in turbulent flows" January 2015 { December 2019, 44 MSEK = 4.67 M\$, as Co-I
- Research Council of Norway, FRINATEK research grant "Particle transport and clustering in tur-

Sep 2009 Program on Solar and Stellar Cycles (Stockholm)
Mar 2008 Program on Turbulence and Dynamos (Stockholm)
Feb 2008 Program on the Origins of Homochirality (Stockholm)
Nov 2007 Joint Nordic and SwAN Astrobiology meeting (Stockholm)
Aug 2007 3rd Pencil Code User Meeting (Stockholm)
May 2007 New Trends in Radiation Hydrodynamics (Stockholm)
Jan 2006 NorFA Winter School on Astrobiology (Levitunturi, Finnish Lapland)
Jul 2005 Nordita Master Class in Physics (Hillerød)
Jan 2005 Astrobiology and Origins of Life (Copenhagen)
Jan 2005 Meeting on Nordic Science Outreach (Copenhagen)
Sep 2004 Cosmic Ray Dynamics: from Turbulent to Galactic Scale Magnetic Fields (Copenhagen)
Aug 2004 Astrobiological Problems for Physicists and Biologists (Turku, Finland)
Jan 2004 Astrobiological Problems for Physicists (Copenhagen)
Jul 2002 Nordita Master Class in Physics (Hillerød)
Jul 2001 Nordita Master Class in Physics (Hillerød)
Mar 2001 Dynamos in the Laboratory, Computer, and the Sky (Copenhagen)
Jul 2000 Nordita Master Class in Physics (Copenhagen)
Jan 2000 Physics of Accretion and Associated Outflows (Copenhagen)
May 1997 UK-MHD meeting (Newcastle, England)
Feb 1996 NorFA Winter School on Magnetic Fields in Space and Astrophysics (Levitunturi, Finnish Lapland)

Invited participation in research programs

Feb 2011 Turbulence Theory, 1 month (Santa Onanta Ona)

Academy; suomen akatemia, SA), major research grants (Deutsche Forschungsgesellschaft, DFG), and observing time (European Southern Observatories, ESO).

Administrative experience

2010{present Editorial Board Member of Astron. Nachr.
2010{2015 Deputy director of Nordita
2008{2015 Chairman of the Swedish Astrobiology Network
2007{2009 Member of the AlbaNova/Nordita colloquium committee
2001 Director of the Helmholtz Summer School, Potsdam
2000{2002 Director of the Nordita Master Class

Other merits

Together with Wolfgang Dobler, I initiated the Pencil Code in 2001, which is a public domain program for solving partial differential equations on massively parallel supercomputers. During 2008{2015 it was hosted through the subversion repository on Google Code, <http://pencil-code.googlecode.com/>, and since 2015 it is hosted through <https://github.com/pencil-code>.

Public Outreach Experience

2014 Article in Fysikaktuellt: *Sökandet efter en ny teori för solfläckar*
2010 Interview "Cycles of the Sun" (British Publishers)
(http://www.nordita.org/~brandenb/Solar_Activity_10.pdf)
2008 Podcast *Is All Life Left-Handed?*
(http://www.astrobio.net/amee/summer_2008/Radio/radio.php)
2005 Organizer of Meeting on Nordic Science Outreach (Copenhagen)

388. Schober, J.,

372. Viviani, M., Warnecke, J., Kapyla, M. J., Kapyla, P. J., Olsper, N., Cole-Kodikara, E. M., Lehtinen, J. J., & Brandenburg, A.: 2018, "Transition from axi- to nonaxisymmetric dynamo modes in spherical convection models of solar-like stars," *Astron. Astrophys.* **616**, A160
371. Brandenburg, A.: 2018, "Advances in mean-field dynamo theory and applications to astrophysical turbulence," *J. Plasma Phys.* **84**, 735840404
370. Singh, N. K., Kapyla, M. J., Brandenburg, A., Kapyla, P. J., Lagg, A., & Virtanen, I.: 2018, "Bi-helical spectrum of solar magnetic helicity and its evolution," *Astrophys. J.* **863**, 182
369. Brandenburg, A., Durrer, R., Kahniashvili, T., Mandal, S., & Yin, W. W.: 2018, "Statistical properties of scale-invariant helical magnetic fields and applications to cosmology," *J. Cosmol. Astropart. Phys.* **08**, 034
368. Zhang, H., & Brandenburg, A.: 2018, "Solar kinetic energy and cross helicity spectra," *Astrophys. J. Lett.* **862**, L17
367. Brandenburg, A., Haugen, N. E. L., Li, X.-Y., & Subramanian, K.: 2018, "Varying the forcing scale in low Prandtl number dynamos," *Mon. Not. Roy. Astron. Soc.* **479**, 2827-2833
366. Kapyla, P. J., Kapyla, M. J., & Brandenburg, A.: 2018, "Small-scale dynamos in simulations of stratified turbulent convection," *Astron. Nachr.* **339**, 127-133
365. Brandenburg, A.

354. Cameron, R. H., Dikpati, M., & Brandenburg, A.: 2017, "The global solar dynamo," *Spa. Sci. Rev.* **210**, 367{395
353. Kopyla, P. J., Rheinhardt, M., Brandenburg, A., Arlt, R., Kopyla, M. J., Lagg, A., Olsper, N., & Warnecke, J.: 2017, "Extended subadiabatic layer in simulations of overshooting convection," *Astrophys. J. Lett.* **845**, L23
352. Brandenburg, A., Schober, J., Rogachevskii, I., Kahniashvili, T., Boyarsky, A., Fröhlich, J., Ruchayskiy, O., & Kleeorin, N.: 2017, "The turbulent chiral magnetic cascade in the early universe," *Astrophys. J. Lett.* **845**, L21
351. Brandenburg, A., Ashurova, M. B., & Jabbari, S.: 2017, "Compensating Faraday depolarization by magnetic helicity in the solar corona," *Astrophys. J. Lett.* **845**, L15
350. Brandenburg, A., Mathur, S., & Metcalfe, T. S.: 2017, "Evolution of coexisting long and short period stellar activity cycles," *Astrophys. J.* **845**, 79
349. Li, X.-Y., Brandenburg, A., Haugen, N. E. L., & Svensson, G.: 2017, "Eulerian and Lagrangian approaches to multidimensional condensation and collection," *J. Adv. Model. Earth Syst.* **9**

334. Kapyla, M. J., Kapyla, P. J., Olspert, N., Brandenburg, A., Warnecke, J., Karak, B. B., & Pelt,

314. Karak, B. B., Rheinhardt, M., Brandenburg, A.

294. Brandenburg, A., Kleeorin, N., & Rogachevskii, I.: 2013, "Self-assembly of shallow magnetic spots through strongly stratified turbulence," *Astrophys. J. Lett.* **776**, L23
293. Rempel, E. L., Chian, A. C.-L., Brandenburg, A., Muñoz, P. R., & Shadden, S. C.: 2013, "Coherent

274. Haugen, N. E. L., Kleeorin, N., Rogachevskii, I., & Brandenburg, A.: 2012, \Detection of the phenomenon of turbulent thermal diffusion in numerical simulations," *Phys. Fluids* **24**, 075106
273. Brandenburg, A., Sokolov, D., & Subramanian, K.: 2012, \Current status of turbulent dynamo theory: From large-scale to small-scale dynamos," *Spa. Sci. Rev.* **169**, 123{157
272. Warnecke, J., Brandenburg, A., & Mitra, D.: 2012, \Magnetic twist: a source and property of space weather," *J. Spa. Weather Spa. Clim.* **2**, A11
271. Kopylov, P. J., Mantere, M. J., & Brandenburg, A.: 2012, \Cyclic magnetic activity due to turbulent convection in spherical wedge geometry," *Astrophys. J. Lett.* **755**, L22
270. Bonanno, A., Brandenburg, A., Del Sordo, F., & Mitra, D.: 2012, \Breakdown of chiral symmetry

253. Kapyla, P. J., Mantere, M. J., & Brandenburg, A.: 2011, "Effects of stratification in spherical shell convection," *Astron. Nachr.* **332**, 883{890}
252. Kemel, K., Brandenburg, A., & Ji, H.: 2011, "A model of driven and decaying magnetic turbulence in a cylinder," *Phys. Rev. E* **84**, 056407
251. Rogachevskii, I., Kleeorin, N., Kapyla, P. J., & Brandenburg, A.: 2011, "Pumping velocity in homogeneous helical turbulence with shear," *Phys. Rev. E* **84**, 056314
250. Plasson, R., Brandenburg, A., Jullien, L., & Bersini, H.: 2011, "Autocatalysis: at the root of self-replication," *Artif. Life* **17**, 219{236}
249. Hubbard, A., Rheinhardt, M. & Brandenburg, A.: 2011, "The fratricide of dynamos by their ² siblings," *Astron. Astrophys.* **535**, A48
248. Radler, K.-H., Brandenburg, A., Del Sordo, F., & Rheinhardt, M.: 2011, "Mean-field diffusivities in passive scalar and magnetic transport in irrotational flows," *Phys. Rev. E* **84**, 4
247. Brandenburg, A.: 2011, "Nonlinear small-scale dynamos at low magnetic Prandtl numbers," *Astrophys. J.* **741**, 92
246. Brandenburg, A., Kemel, K., Kleeorin, N., Mitra, D., & Rogachevskii, I.: 2011, "Detection of negative effective magnetic pressure instability in turbulence simulations," *Astrophys. J. Lett.* **740**, L50
245. Chatterjee, P., Mitra, D., Rheinhardt, M., & Brandenburg, A.: 2011, "Alpha effect due to buoyancy instability of a magnetic layer," *Astron. Astrophys.* **534**, A46
244. Warnecke, J., Brandenburg, A., & Mitra, D.: 2011, "Dynamo-driven plasmoid ejections above a spherical surface," *Astron. Astrophys.* **534**, A11
243. Chatterjee, P., Mitra, D., Brandenburg, A., & Rheinhardt, M.: 2011, "Spontaneous chiral symmetry breaking by hydromagnetic buoyancy," *Phys. Rev. E* **84**, 025403R
242. Bejarano, C., Gomez, D. O., & Brandenburg, A.: 2011, "Shear-driven instabilities in Hall-magnetohydrodynamic plasmas," *Astrophys. J.* **737**, 62
241. Candelaresi, S., & Brandenburg, A.: 2011, "Decay of helical and non-helical magnetic knots," *Phys. Rev. E* **84**, 016406
240. Plasson, R., Brandenburg, A., Jullien, L., & Bersini, H.: 2011, "Autocatalyses," *J. Phys. Chem. A* **115**, 8073{8085}
239. Brandenburg, A.: 2011, "Chandrasekhar-Kendall functions in astrophysical dynamos," *Pramana J. Phys.* **77**, 67{76}
238. Kapyla, P. J., Mantere, M. J., Guerrero, G., Brandenburg, A., & Chatterjee, P.: 2011, "Reynolds stress and heat flux in spherical shell convection," *Astron. Astrophys.* **531**, A162
237. Rempel, E. L., Chian, A. C.-L., & Brandenburg, A.: 2011, "Lagrangian coherent structures in a nonlinear dynamo," *Astrophys. J.* **735**, L9
236. Brandenburg, A., Subramanian, K., Balogh, A., & Goldstein, M. L.: 2011, "Scale dependence of magnetic helicity in the solar wind," *Astrophys. J.* **734**, 9
235. Del Sordo, F., & Brandenburg, A.: 2011, "Vorticity production through rotation, shear, and baroclinicity," *Astron. Astrophys.* **528**, A145
234. Brandenburg, A., & Nordlund, A.: 2011, "Astrophysical turbulence modeling," *Rep. Prog. Phys.* **74**, 046901

233. Rüdiger, G., Kitchatinov, L. L., & Brandenburg, A.: 2011, "Cross helicity and turbulent magnetic diffusivity in the solar convection zone," *Solar Phys.* **269**, 3{12
232. Mitra, D., Moss, D., Tavakol, R., & Brandenburg, A.: 2011, "Alleviating alpha quenching by solar wind and meridional flow," *Astron. Astrophys.* **526**, A138
231. Brandenburg, A., Haugen, N. E. L., & Babkovskaia, N.: 2011, "Turbulent front speed in the Fisher equation: dependence on Damköhler number," *Phys. Rev. E*

212. Plasson, R., & Brandenburg, A.: 2010, \Homochirality and the need for energy," *Orig. Life Evol. Biosph.* **40**, 93{110
211. Brandenburg, A.: 2010, \Magnetic field evolution in simulations with Euler potentials," *Mon. Not. Roy. Astron. Soc.* **401**, 347{354
210. Mitra, D., Candelaresi, S., Chatterjee, P., Tavakol, R., & Brandenburg, A.: 2010, \Equatorial magnetic helicity flux in simulations with different gauges," *Astron. Nachr.* **331**, 130{135
209. Radler, K.-H., & Brandenburg, A.: 2010, \Mean electromotive force proportional to mean flow in mhd turbulence," *Astron. Nachr.* **331**, 14{21
208. Brandenburg, A., Kleeorin, N., & Rogachevskii, I.: 2010, \Large-scale magnetic flux concentrations from turbulent stresses," *Astron. Nachr.* **331**, 5{13
207. Kopylov, P. J., Korpi, M. J., Brandenburg, A., Mitra, D., & Tavakol, R.: 2010, \Convective dynamos in spherical wedge geometry," *Astron. Nachr.* **331**, 73{81
206. Hubbard, A., & Brandenburg, A.: 2009, \Memory effects in turbulent transport," *Astrophys. J.* **706**, 712{726
205. Brandenburg, A.: 2009, \The critical role of magnetic helicity in astrophysical dynamos," *Plasma Phys. Control. Fusion* **51**, 124043
204. Sur, S., & Brandenburg, A.: 2009, \The role of the Yoshizawa effect in the Archontis dynamo," *Mon. Not. Roy. Astron. Soc.* **399**, 273{280
- 203.

170. Sur, S., Subramanian, K., & Brandenburg, A.: 2007, "Kinetic and magnetic effects in non-linear dynamo theory," *Mon. Not. Roy. Astron. Soc.* **376**, 1238{1250
169. Brandenburg, A., Korpi, M. J., & Mee, A. J.: 2007, "Thermal instability in shearing and periodic turbulence," *Astrophys. J.* **654**, 945{954

149. Dintrans, B., Brandenburg, A., Nordlund, A., & Stein, R. F.: 2005, \Spectrum and amplitudes of internal gravity waves excited by penetrative convection in solar-type stars," *Astron. Astrophys.* **438**, 365{376
148. Brandenburg, A., & Subramanian, K.: 2005, \Strong mean field dynamos require supercritical helicity fluxes," *Astron. Nachr.* **326**, 400{408
147. Christensson, M., Hindmarsh, M., & Brandenburg, A.: 2005, \Scaling laws in decaying helical 3D magnetohydrodynamic turbulence," *Astron. Nachr.* **326**, 393{399
146. Schekochihin, A. A., Haugen, N. E. L., Brandenburg, A., Cowley, S. C., Maron, J. L., & McWilliams, J. C.: 2005, \The onset of small scale dynamo at small magnetic Prandtl numbers," *Astrophys. J.* **625**, L115{L118
- *145. Brandenburg, A.: 2005, \The case for a distributed solar dynamo shaped by near-surface shear," *Astrophys. J.* **625**, 539{547
144. Brandenburg, A., Haugen, N. E. L., Kopylov, P. J., & Sandin, C.: 2005, \The problem of small and large scale fields in the solar dynamo," *Astron. Nachr.* **326**, 174{185
143. Brandenburg, A., & Multamäki, T.: 2004, \How long can left and right handed life forms coexist?" *Int. J. Astrobiol.* **3**, 209{219
142. Subramanian, K., & Brandenburg, A.: 2004, \Nonlinear current helicity fluxes in turbulent dynamos and alpha quenching," *Phys. Rev. Lett.* **93**, 205001
141. Pearson, B. R., Yousef, T. A., Haugen, N. E. L., Brandenburg, A., & Krogstad, P. A.: 2004, \Delayed correlation between turbulent energy dissipation and injection," *Phys. Rev. E* **70**, 056301
140. Brandenburg, A., & Sandin, C.: 2004, \Catastrophic alpha quenching alleviated by helicity flux and shear," *Astron. Astrophys.* **427**, 13{21
139. von Rekowski, B., Brandenburg, A., Dobler, W., & Shukurov, A.: 2004, \Outflows from dynamo active protostellar accretion discs," *Astrophys. Spa. Sci.* **292**, 493{500
138. Sarson, G. R., Shukurov, A., Nordlund, A., Gudiksen, B., & Brandenburg, A.: 2004, \Self-regulating supernovae heating in interstellar medium simulations," *Astrophys. Spa. Sci.* **292**, 267{272
137. Haugen, N. E. L., Brandenburg, A., & Dobler, W.: 2004, \High-resolution simulations of nonhelical MHD turbulence," *Astrophys. Spa. Sci.* **292**, 53{60
136. Haugen, N. E. L., & Brandenburg, A.: 2004, \Suppression of small scale dynamo action by an imposed magnetic field," *Phys. Rev. E* **70**, 036408
135. Haugen, N. E. L., Brandenburg, A., & Mee, A. J.: 2004, \Mach number dependence of the onset of dynamo action," *Mon. Not. Roy. Astron. Soc.* **353**, 947{952
134. Haugen, N. E. L., & Brandenburg, A.: 2004, \Inertial range scaling in numerical turbulence with hyperviscosity," *Phys. Rev. E* **70**, 026405
- *133. Haugen, N. E. L., Brandenburg, A., & Dobler, W.: 2004, \Simulations of nonhelical hydromagnetic turbulence," *Phys. Rev. E* **70**, 016308
132. Dintrans, B., & Brandenburg, A.: 2004, \Identification of gravity waves in hydrodynamical simulations," *Astron. Astrophys.* **421**, 775{782
131. Brandenburg, A., & Matthaeus, W. H.: 2004, \Magnetic helicity evolution in a periodic domain with imposed field," *Phys. Rev. E* **69**, 056407
130. Yousef, T. A., Haugen, N. E. L., & Brandenburg, A.: 2004, \Self-similar scaling in decaying numerical turbulence," *Phys. Rev. E* **69**, 056303

129. von Rekowski, B., & Brandenburg, A.: 2004, "Outflows and accretion in a star-disc system with stellar magnetosphere and disc dynamo," *Astron. Astrophys.* **420**, 17{32
128. Johansen, A., Andersen, A. C., & Brandenburg, A.: 2004, "Simulations of dust-trapping vortices in protoplanetary discs," *Astron. Astrophys.* **417**, 361{371
127. Brandenburg, A., Kopylov, P. J., & Mohammed, A.: 2004, "Non-Fickian diffusion and tau-approximation from numerical turbulence," *Phys. Fluids* **16**, 1020{1027
126. Shukurov, A., Sarson, G. S., Nordlund, A., Gudiksen, B., & Brandenburg, A.: 2004, "The effects of spiral arms on the multi-phase ISM," *Astrophys. Spa. Sci.* **289**, 319{322
125. Brandenburg, A., Blackman, E. G., & Sarson, G. R.: 2003, "How magnetic helicity ejection helps large scale dynamos," *Adv. Spa. Sci.* **32**, 1835{1844
124. Yousef, T. A., Brandenburg, A., & Rüdiger, G.: 2003, "Turbulent magnetic Prandtl number and magnetic diffusivity quenching from simulations," *Astron. Astrophys.* **411**, 321{327
123. Haugen, N. E. L., Brandenburg, A., & Dobler, W.: 2003, "Is nonhelical hydromagnetic turbulence peaked at small scales?" *Astrophys. J. Lett.* **597**, L141{L144
122. Yousef, T. A., & Brandenburg, A.: 2003, "Relaxation of writhe and twist of a bi-helical magnetic field," *Astron. Astrophys.* **407**, 7{12
121. Dobler, W., Haugen, N. E. L., Yousef, T. A., & Brandenburg, A.: 2003, "Bottleneck effect in three-dimensional turbulence simulations," *Phys. Rev. E* **68**, 026304
120. Rädler, K.-H., &

109. Brandenburg, A., Dobler, W., & Subramanian, K.: 2002, "Magnetic helicity in stellar dynamos: new numerical experiments," *Astron. Nachr.* **323**, 99{122
108. Dobler, W., Shukurov, A., & Brandenburg, A.: 2002, "Nonlinear states of the screw dynamo," *Phys. Rev. E* **65**, 036311
107. Brandenburg, A., & Sarson, G. R.: 2002, "The effect of hyperdiffusivity on turbulent dynamos with helicity," *Phys. Rev. Lett.* **88**, 055003, 1{4
106. Arlt, R., & Brandenburg, A.: 2001, "Search for non-helical disc dynamos in simulations," *Astron. Astrophys.* **380**, 359{372
105. Brandenburg, A., & von Rekowski, B.: 2001, "Astrophysical significance of the anisotropic kinetic alpha effect," *Astron. Astrophys.* **379**, 1153{1160
104. Christensson, M., Hindmarsh, M., & Brandenburg, A.

88. Sanchez-Salcedo, F. J., & Brandenburg, A.: 1999, "Deceleration by dynamical friction in a gaseous medium," *Astrophys. J. Lett.*

68. Urpin, V., & Brandenburg, A.: 1998, "Magnetic and vertical shear instabilities in accretion discs," *Mon. Not. Roy. Astron. Soc.* **294**, 399{406
67. Brandenburg, A.: 1997, "Large scale turbulent dynamos," *Acta Astron. Geophys. Univ. Comeniana* **XIX**, 235{261
66. Covas, E., Tworkowski, A., Tavakol, R., & Brandenburg, A.: 1997, "Robustness of truncated dynamos with a dynamic α ," *Solar Phys.* **172**, 3{9
65. Moss, D., Brandenburg, A., & Soward, A. M.: 1997, "Steady and oscillatory solutions for the Herzenberg dynamo," *Acta Astron. Geophys. Univ. Comeniana* **XIX**, 43{50
64. Brandenburg, A., & Donner, K. J.: 1997, "The dependence of the dynamo α on vorticity," *Mon. Not. Roy. Astron. Soc.* **288**, L29{L33
63. Zweibel, E. G., & Brandenburg, A.: 1997, "Current sheet formation in the interstellar medium," *Astrophys. J.* **478**, 563{568
62. Brandenburg, A., Enqvist, K., & Olesen, P.: 1997, "The effect of Silk damping on primordial magnetic fields," *Phys. Lett. B.* **392**, 395{402
61. Covas, E., Tworkowski, A., Brandenburg, A., & Tavakol, R.: 1997, "Dynamos with different formulations of a dynamic α -effect," *Astron. Astrophys.* **317**, 610{617
60. Vishniac, E. T., & Brandenburg, A.: 1997, "An incoherent

47. Kerr, R. M., Herring, J. R., & Brandenburg, A.: 1995, "Large-scale structure in Rayleigh-Benard convection with impenetrable side-walls,"

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