

# Sebastien Galtier

## List of Publications by Year in descending order

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95  
papers

3,467  
citations

159585

30  
h-index

144013

57  
g-index

97  
all docs

97  
docs citations

97  
times ranked

1173  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | A weak turbulence theory for incompressible magnetohydrodynamics. Journal of Plasma Physics, 2000, 63, 447-488.   | 2.1 | 526       |
| 2  | Weak inertial-wave turbulence theory. Physical Review E, 2003, 68, 015301.  | 2.1 | 207       |
| 3  | Exact Relation for Correlation Functions in Compressible Isothermal Turbulence. Physical Review Letters, 2011, 107, 134501.   | 7.8 | 163       |
| 4  | Wave turbulence in incompressible Hall magnetohydrodynamics. Journal of Plasma Physics, 2006, 72, 721.  | 2.1 | 161       |
| 5  | Anisotropic Turbulence of Shear-Alfvén Waves. Astrophysical Journal, 2002, 564, L49-L52.  | 4.5 | 125       |
| 6  | Multiscale Hall-Magnetohydrodynamic Turbulence in the Solar Wind. Astrophysical Journal, 2007, 656, 560-566.  | 4.5 | 113       |
| 7  | Anisotropic weak whistler wave turbulence in electron magnetohydrodynamics. Physics of Plasmas, 2003, 10, 3065-3076.  | 1.9 | 101       |
| 8  | Exact relation with two-point correlation functions and phenomenological approach for compressible magnetohydrodynamic turbulence. Physical Review E, 2013, 87, 013019.                           | 2.1 | 101       |
| 9  | von Kármán-Howarth equations for Hall magnetohydrodynamic flows. Physical Review E, 2008, 77, 015302.   | 2.1 | 90        |
| 10 | On spectral scaling laws for incompressible anisotropic magnetohydrodynamic turbulence. Physics of Plasmas, 2005, 12, 092310.   | 1.9 | 88        |
| 11 | Energy Cascade Rate in Compressible Fast and Slow Solar Wind Turbulence. Astrophysical Journal, 2017, 838, 9.   | 4.5 | 80        |
| 12 | Compressible Magnetohydrodynamic Turbulence in the Earth's Magnetosheath: Estimation of the Energy Cascade Rate Using <i>in situ</i> Spacecraft Data. Physical Review Letters, 2018, 120, 055102. | 7.8 | 68        |
| 13 | SCALING OF COMPRESSIBLE MAGNETOHYDRODYNAMIC TURBULENCE IN THE FAST SOLAR WIND. Astrophysical Journal Letters, 2016, 829, L27.   | 8.3 | 59        |
| 14 | Anisotropic fluid turbulence in the interstellar medium and solar wind. Physics of Plasmas, 2003, 10, 1954-1962.  | 1.9 | 58        |
| 15 | Spontaneous Chiral Symmetry Breaking of Hall Magnetohydrodynamic Turbulence. Physical Review Letters, 2012, 109, 194501.  | 7.8 | 58        |
| 16 | Development of anisotropy in incompressible magnetohydrodynamic turbulence. Physical Review E, 2008, 78, 066301.  | 2.1 | 48        |
| 17 | Energy Cascade Rate Measured in a Collisionless Space Plasma with MMS Data and Compressible Hall Magnetohydrodynamic Turbulence Theory. Physical Review Letters, 2019, 123, 245101.               | 7.8 | 47        |
| 18 | Direct Evidence of the Transition from Weak to Strong Magnetohydrodynamic Turbulence. Physical Review Letters, 2016, 116, 105002.   | 7.8 | 46        |

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|----|--|-----|-----------|
| 19 | Self-Similar Energy Decay in Magnetohydrodynamic Turbulence. <i>Physical Review Letters</i> , 1997, 79, 2807-2810.               | 7.8 | 41        |
| 20 | Modeling the Radiative Signatures of Turbulent Heating in Coronal Loops. <i>Astrophysical Journal</i> , 2006, 651, 1219-1228.    | 4.5 | 40        |
| 21 | On waves in incompressible Hall magnetohydrodynamics. <i>Journal of Plasma Physics</i> , 2007, 73, 723-730.                      | 2.1 | 40        |
| 22 | Exact law for homogeneous compressible Hall magnetohydrodynamics turbulence. <i>Physical Review E</i> , 2018, 97, 013204.        | 2.1 | 40        |
| 23 | Anisotropic fluxes and nonlocal interactions in magnetohydrodynamic turbulence. <i>Physical Review E</i> , 2007, 76, 056313.     | 2.1 | 39        |
| 24 | Turbulence of Weak Gravitational Waves in the Early Universe. <i>Physical Review Letters</i> , 2017, 119, 221101.                | 7.8 | 39        |
| 25 | Weak magnetohydrodynamic turbulence and intermittency. <i>Journal of Fluid Mechanics</i> , 2015, 770, .                          | 3.4 | 37        |
| 26 | A Kolmogorov-like exact relation for compressible polytropic turbulence. <i>Journal of Fluid Mechanics</i> , 2014, 742, 230-242. | 3.4 | 36        |
| 27 | Wave turbulence in magnetized plasmas. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 83-98.                               | 1.3 | 34        |
| 28 | A UNIVERSAL LAW FOR SOLAR-WIND TURBULENCE AT ELECTRON SCALES. <i>Astrophysical Journal</i> , 2010, 721, 1421-1424.               | 4.5 | 34        |
| 29 | Energy cascade rate in isothermal compressible magnetohydrodynamic turbulence. <i>Journal of Plasma Physics</i> , 2018, 84, .    | 2.1 | 34        |
| 30 | Non-local MHD turbulence. <i>Physica D: Nonlinear Phenomena</i> , 2001, 152-153, 646-652.  | 2.8 | 32        |
| 31 | On Exact Laws in Incompressible Hall Magnetohydrodynamic Turbulence. <i>Astrophysical Journal</i> , 2019, 881, 50.               | 4.5 | 31        |
| 32 | Extended spectral scaling laws for shear-Alfvén wave turbulence. <i>Physics of Plasmas</i> , 2006, 13, 114505.                   | 1.9 | 30        |
| 33 | Anomalous $k^{-3/2}$ scaling in Electron Magnetohydrodynamic Turbulence. <i>Physical Review Letters</i> , 2013, 111, 264501.     | 2.8 | 30        |
| 34 | Energy Decay Laws in Strongly Anisotropic Magnetohydrodynamic Turbulence. <i>Physical Review Letters</i> , 2008, 100, 074502.    | 7.8 | 29        |
| 35 | Solar Flare Statistics with a One-Dimensional Mhd Model. <i>Solar Physics</i> , 1998, 179, 141-165.                              | 2.5 | 27        |
| 36 | Intermittent heating in a model of solar coronal loops. <i>Solar Physics</i> , 2000, 197, 57-73.                                 | 2.5 | 26        |

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|----|--|-----|-----------|
| 37 | A simplified numerical model of coronal energy dissipation based on reduced MHD. <i>Astronomy and Astrophysics</i> , 2003, 406, 1061-1070.   | 5.1 | 26        |
| 38 | Multi-scale Turbulence in the Inner Solar Wind. <i>Journal of Low Temperature Physics</i> , 2006, 145, 59-74.  | 1.4 | 26        |
| 39 | Weak turbulence theory for rotating magnetohydrodynamics and planetary flows. <i>Journal of Fluid Mechanics</i> , 2014, 757, 114-154.  | 3.4 | 25        |
| 40 | An alternative formulation for exact scaling relations in hydrodynamic and magnetohydrodynamic turbulence. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 015501. | 2.1 | 24        |
| 41 | Exact scaling laws for 3D electron MHD turbulence. <i>Journal of Geophysical Research</i> , 2008, 113, .   | 3.3 | 23        |
| 42 | Two-dimensional state in driven magnetohydrodynamic turbulence. <i>Physical Review E</i> , 2011, 83, 026405.   | 2.1 | 23        |
| 43 | Turbulence in space plasmas and beyond. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 293001.  | 2.1 | 22        |
| 44 | Influence of the definition of dissipative events on their statistics. <i>Astronomy and Astrophysics</i> , 2005, 436, 355-362.   | 5.1 | 22        |
| 45 | The Evolution of Compressible Solar Wind Turbulence in the Inner Heliosphere: PSP, THEMIS, and MAVEN Observations. <i>Astrophysical Journal</i> , 2021, 919, 19.                         | 4.5 | 21        |
| 46 | Anomalous spectral laws in differential models of turbulence. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015, 48, 285501.  | 2.1 | 20        |
| 47 | The Ion Transition Range of Solar Wind Turbulence in the Inner Heliosphere: Parker Solar Probe Observations. <i>Astrophysical Journal Letters</i> , 2021, 909, L7.                       | 8.3 | 20        |
| 48 | Compressible Turbulence in the Interstellar Medium: New Insights from a High-resolution Supersonic Turbulence Simulation. <i>Astrophysical Journal</i> , 2020, 904, 160.                 | 4.5 | 20        |
| 49 | Chiral exact relations for helicities in Hall magnetohydrodynamic turbulence. <i>Physical Review E</i> , 2016, 93, 033120.   | 2.1 | 19        |
| 50 | On the origin of the energy dissipation anomaly in (Hall) magnetohydrodynamics. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 205501.                            | 2.1 | 19        |
| 51 | NONLINEAR DIFFUSION EQUATIONS FOR ANISOTROPIC MAGNETOHYDRODYNAMIC TURBULENCE WITH CROSS-HELICITY. <i>Astrophysical Journal</i> , 2010, 722, 1977-1983.                                   | 4.5 | 17        |
| 52 | Kolmogorov laws for stratified turbulence. <i>Journal of Fluid Mechanics</i> , 2012, 709, 659-670.   | 3.4 | 17        |
| 53 | Entanglement of helicity and energy in kinetic Alfvén wave/whistler turbulence. <i>Journal of Plasma Physics</i> , 2015, 81, .   | 2.1 | 17        |
| 54 | Exact vectorial law for homogeneous rotating turbulence. <i>Physical Review E</i> , 2009, 80, 046301.  | 2.1 | 16        |

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|----|--|-----|-----------|
| 55 | An anisotropic turbulent model for solar coronal heating. <i>Astronomy and Astrophysics</i> , 2008, 490, 325-337.  | 5.1 | 16        |
| 56 | EXACT VECTORIAL LAW FOR AXISYMMETRIC MAGNETOHYDRODYNAMICS TURBULENCE. <i>Astrophysical Journal</i> , 2009, 704, 1371-1384.   | 4.5 | 15        |
| 57 | A One-dimensional Magnetohydrodynamic Model of Solar Flares: Emergence of a Population of Weak Events, and a Possible Road toward Nanoflares. <i>Astrophysical Journal</i> , 1999, 521, 483-489. | 4.5 | 15        |
| 58 | The incompressible energy cascade rate in anisotropic solar wind turbulence. <i>Astronomy and Astrophysics</i> , 2022, 661, A116.  | 5.1 | 15        |
| 59 | Parametric investigation of self-similar decay laws in MHD turbulent flows. <i>Journal of Plasma Physics</i> , 1999, 61, 507-541.  | 2.1 | 14        |
| 60 | Exact scaling laws for helical three-dimensional two-fluid turbulent plasmas. <i>Physical Review E</i> , 2016, 94, 063206.   | 2.1 | 14        |
| 61 | Spectrum in Kinetic Alfvén Wave Turbulence: Implications for the Solar Wind. <i>Astrophysical Journal Letters</i> , 2019, 880, L10.  | 8.3 | 13        |
| 62 | Nonlinear diffusion models for gravitational wave turbulence. <i>Physica D: Nonlinear Phenomena</i> , 2019, 390, 84-88.  | 2.8 | 13        |
| 63 | On wave turbulence in MHD. <i>Nonlinear Processes in Geophysics</i> , 2001, 8, 141-150.  | 1.3 | 12        |
| 64 | KOLMOGOROV VECTORIAL LAW FOR SOLAR WIND TURBULENCE. <i>Astrophysical Journal</i> , 2012, 746, 184.   | 4.5 | 12        |
| 65 | A compact exact law for compressible isothermal Hall magnetohydrodynamic turbulence. <i>Journal of Plasma Physics</i> , 2021, 87, .  | 2.1 | 12        |
| 66 | Weak turbulence in two-dimensional magnetohydrodynamics. <i>Physical Review E</i> , 2013, 87, .  | 2.1 | 11        |
| 67 | Theory for helical turbulence under fast rotation. <i>Physical Review E</i> , 2014, 89, 041001.  | 2.1 | 11        |
| 68 | Coexistence of Weak and Strong Wave Turbulence in Incompressible Hall Magnetohydrodynamics. <i>Physical Review X</i> , 2018, 8, .  | 8.9 | 11        |
| 69 | Direct Evidence of a Dual Cascade in Gravitational Wave Turbulence. <i>Physical Review Letters</i> , 2021, 127, 131101.  | 7.8 | 9         |
| 70 | Inertial/kinetic-Alfvén wave turbulence: A twin problem in the limit of local interactions. <i>Physical Review Fluids</i> , 2020, 5, .   | 2.5 | 9         |
| 71 | Third-order Elsässer moments in axisymmetric MHD turbulence. <i>Comptes Rendus Physique</i> , 2011, 12, 151-159.   | 0.9 | 6         |
| 72 | An In-depth Numerical Study of Exact Laws for Compressible Hall Magnetohydrodynamic Turbulence. <i>Astrophysical Journal</i> , 2022, 927, 205.   | 4.5 | 6         |

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|----|---|-----|-----------|
| 73 | Energy Transfer, Discontinuities, and Heating in the Inner Heliosphere Measured with a Weak and Local Formulation of the Politano-Pouquet Law. <i>Astrophysical Journal</i> , 2022, 927, 200. | 4.5 | 6         |
| 74 | Anisotropic wave turbulence in electron MHD. <i>Plasma Physics and Controlled Fusion</i> , 2005, 47, B691-B701.   | 2.1 | 5         |
| 75 | Magnetic effects on fields morphologies and reversals in geodynamo simulations. <i>Physics of the Earth and Planetary Interiors</i> , 2020, 307, 106542.                                      | 1.9 | 5         |
| 76 | Wave turbulence: the case of capillary waves. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2021, 115, 234-257.   | 1.2 | 5         |
| 77 | Inverse cascade of hybrid helicity in $\hat{B}^{\perp}$ -MHD turbulence. <i>Physical Review Fluids</i> , 2019, 4, .   | 2.5 | 5         |
| 78 | Wave Turbulence in Astrophysics. <i>World Scientific Series on Nonlinear Science, Series A</i> , 2013, , 73-111.  | 0.0 | 5         |
| 79 | Statistical Study of Short Quiescent Times between Solar Flares in a 1D MHD Model. <i>Solar Physics</i> , 2001, 201, 133-136.   | 2.5 | 4         |
| 80 | Large-scale magnetic field sustainment by forced MHD wave turbulence. <i>Journal of Turbulence</i> , 2008, 9, N40.  | 1.4 | 4         |
| 81 | The focusing problem for the Leith model of turbulence: a self-similar solution of the third kind. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 155501.              | 2.1 | 4         |
| 82 | Proof of the zeroth law of turbulence in one-dimensional compressible magnetohydrodynamics and shock heating. <i>Physical Review E</i> , 2021, 103, 063217.                                   | 2.1 | 4         |
| 83 | Fluid Energy Cascade Rate and Kinetic Damping: New Insight from 3D Landau-fluid Simulations. <i>Astrophysical Journal</i> , 2021, 923, 122.   | 4.5 | 4         |
| 84 | A Plausible Model of Inflation Driven by Strong Gravitational Wave Turbulence. <i>Universe</i> , 2020, 6, 98.   | 2.5 | 3         |
| 85 | Feedback of a small-scale magnetic dynamo. <i>Physical Review E</i> , 2000, 63, 016408.   | 2.1 | 2         |
| 86 | Weak turbulence of anisotropic shear-Alfvén waves. <i>AIP Conference Proceedings</i> , 2003, , .  | 0.4 | 2         |
| 87 | Consequence of space correlation foliation for electron magnetohydrodynamic turbulence. <i>Physics of Plasmas</i> , 2009, 16, 112310.   | 1.9 | 2         |
| 88 | Kinematic turbulent dynamo in the large Prandtl number regime. <i>Astronomy and Astrophysics</i> , 2004, 414, 807-824.  | 5.1 | 2         |
| 89 | Meromorphy and topology of localized solutions in the Thomas-MHD model. <i>Journal of Plasma Physics</i> , 2001, 65, 365-406.   | 2.1 | 1         |
| 90 | Hall-MHD turbulence in the solar wind. , 2007, , 70-72.   |     | 1         |

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|----|---|-----|-----------|
| 91 | A One-Dimensional MHD Model of Solar Flares: Statistics or Physics?. Fluid Mechanics and Its Applications, 2000, , 283-292. | 0.2 | 1         |
| 92 | A solar cellular automata model issued from reduced MHD. AIP Conference Proceedings, 2003, , .                              | 0.4 | 0         |
| 93 | Solar Coronal Heating via Alfvén Wave Turbulence. , 2010, , .   |     | 0         |
| 94 | Solar Wind Turbulence: New Questions and Possible Solutions. , 2010, , .  |     | 0         |
| 95 | Anisotropy in three-dimensional MHD turbulence. Springer Proceedings in Physics, 2007, , 26-28.                             | 0.2 | 0         |