Bartholomeus Van der Holst

List of Publications by Year
in descending order

70 papers	3,814 citations	117625 34 h-index	123424 61 g-index
76 all docs	76 docs citations	76 times ranked	2920 citing authors

#	Article	IF	Citations
1	Adaptive numerical algorithms in space weather modeling. Journal of Computational Physics, 2012, 231, 870-903.	3.8	560
2	ALFVÃ‰N WAVE SOLAR MODEL (AWSoM): CORONAL HEATING. Astrophysical Journal, 2014, 782, 81.	4.5	356
3	Parallel, grid-adaptive approaches for relativistic hydro and magnetohydrodynamics. Journal of Computational Physics, 2012, 231, 718-744.	3.8	222
4	Atmospheric escape from the TRAPPIST-1 planets and implications for habitability. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 260-265.	7.1	159
5	MAGNETOHYDRODYNAMIC WAVES AND CORONAL HEATING: UNIFYING EMPIRICAL AND MHD TURBULENCE MODELS. Astrophysical Journal, 2013, 764, 23.	4.5	142
6	A DATA-DRIVEN, TWO-TEMPERATURE SOLAR WIND MODEL WITH ALFVÃ‰N WAVES. Astrophysical Journal, 2010, 725, 1373-1383.	4.5	123
7	CRASH: A BLOCK-ADAPTIVE-MESH CODE FOR RADIATIVE SHOCK HYDRODYNAMICSâ€”IMPLEMENTATION AND VERIFICATION. Astrophysical Journal, Supplement Series, 2011, 194, 23.	7.7	91
8	UNDERSTANDINGSDO/AIA OBSERVATIONS OF THE 2010 JUNE 13 EUV WAVE EVENT: DIRECT INSIGHT FROM A GLOBAL THERMODYNAMIC MHD SIMULATION. Astrophysical Journal, 2012, 750, 134.	4.5	90
9	Global MHD simulations of Mercury's magnetosphere with coupled planetary interior: Induction effect of the planetary conducting core on the global interaction. Journal of Geophysical Research: Space Physics, 2015, 120, 4763-4775.	2.4	89
10	STUDYING EXTREME ULTRAVIOLET WAVE TRANSIENTS WITH A DIGITAL LABORATORY: DIRECT COMPARISON OF EXTREME ULTRAVIOLET WAVE OBSERVATIONS TO GLOBAL MAGNETOHYDRODYNAMIC SIMULATIONS. Astrophysical Journal, 2011, 728, 2.	4.5	87
11	OBTAINING POTENTIAL FIELD SOLUTIONS WITH SPHERICAL HARMONICS AND FINITE DIFFERENCES. Astrophysical Journal, 2011, 732, 102.	4.5	86
12	A GLOBAL WAVE-DRIVEN MAGNETOHYDRODYNAMIC SOLAR MODEL WITH A UNIFIED TREATMENT OF OPEN AND CLOSED MAGNETIC FIELD TOPOLOGIES. Astrophysical Journal, 2013, 778, 176.	4.5	85
13	DATA-CONSTRAINED CORONAL MASS EJECTIONS IN A GLOBAL MAGNETOHYDRODYNAMICS MODEL. Astrophysical Journal, 2017, 834, 173.	4.5	83
14	TOWARD A REALISTIC THERMODYNAMIC MAGNETOHYDRODYNAMIC MODEL OF THE GLOBAL SOLAR CORONA. Astrophysical Journal, 2010, 712, 1219-1231.	4.5	79
15	FINESSE: Axisymmetric MHD Equilibria with Flow. Journal of Computational Physics, 2002, 182, 91-117.	3.8	78
16	Hybrid block-AMR in cartesian and curvilinear coordinates: MHD applications. Journal of Computational Physics, 2007, 226, 925-946.	3.8	78
17	Extended MHD modeling of the steady solar corona and the solar wind. Living Reviews in Solar Physics, 2018, 15, 4.	22.0	72
18	CHROMOSPHERE TO 1 au SIMULATION OF THE 2011 MARCH 7th EVENT: A COMPREHENSIVE STUDY OF CORONAL MASS EJECTION PROPAGATION. Astrophysical Journal, 2017, 834, 172.	4.5	68

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19	Low frequency Alfvèn waves induced by toroidal flows. Physics of Plasmas, 2000, 7, 4208.	1.9	60
20	SIMULATION OF FLUX EMERGENCE FROM THE CONVECTION ZONE TO THE CORONA. Astrophysical Journal, 2010, 714, 1649-1657.	4.5	51
21	Simulation of a Breakout Coronal Mass Ejection in the Solar Wind. Astrophysical Journal, 2007, 671, L77-L80.	4.5	48
22	A multidimensional grid-adaptive relativistic magnetofluid code. Computer Physics Communications, 2008, 179, 617-627.	7.5	48
23	GLOBAL NUMERICAL MODELING OF ENERGETIC PROTON ACCELERATION IN A CORONAL MASS EJECTION TRAVELING THROUGH THE SOLAR CORONA. Astrophysical Journal, 2013, 778, 43.	4.5	48
24	New AlfvÃ©n Continuum Gaps and Global Modes Induced by Toroidal Flow. Physical Review Letters, 2000, 84, 2865-2868.	7.8	45
25	Unstable continuous spectra of transonic axisymmetric plasmas. Physics of Plasmas, 2004, 11, 28-54.	1.9	45
26	NUMERICAL SIMULATIONS OF CORONAL MASS EJECTION ON 2011 MARCH 7: ONE-TEMPERATURE AND TWO-TEMPERATURE MODEL COMPARISON. Astrophysical Journal, 2013, 773, 50.	4.5	45
27	Selfâ€consistent multifluid MHD simulations of Europa's exospheric interaction with Jupiter's magnetosphere. Journal of Geophysical Research: Space Physics, 2015, 120, 3503-3524.	2.4	44
28	A STEADY-STATE PICTURE OF SOLAR WIND ACCELERATION AND CHARGE STATE COMPOSITION DERIVED FROM A GLOBAL WAVE-DRIVEN MHD MODEL. Astrophysical Journal, 2015, 806, 55.	4.5	42
29	Validation of the AlfvÃ©n Wave Solar Atmosphere Model (AWSoM) with Observations from the Low Corona to 1 au. Astrophysical Journal, 2019, 887, 83.	4.5	41
30	BREAKOUT CORONAL MASS EJECTION OR STREAMER BLOWOUT: THE BUGLE EFFECT. Astrophysical Journal, 2009, 693, 1178-1187.	4.5	39
31	Radiative effects in radiative shocks in shock tubes. High Energy Density Physics, 2011, 7, 130-140.	1.5	38
32	THE COUPLED EVOLUTION OF ELECTRONS AND IONS IN CORONAL MASS EJECTION-DRIVEN SHOCKS. Astrophysical Journal, 2012, 756, 81.	4.5	37
33	CORONAL HEATING BY SURFACE ALFVÃ‰N WAVE DAMPING: IMPLEMENTATION IN A GLOBAL MAGNETOHYDRODYNAMICS MODEL OF THE SOLAR WIND. Astrophysical Journal, 2012, 756, 155.	4.5	37
34	DYNAMIC COUPLING OF CONVECTIVE FLOWS AND MAGNETIC FIELD DURING FLUX EMERGENCE. Astrophysical Journal, 2012, 745, 37.	4.5	35
35	AlfvÃ©n wave solar model (AWSoM): proton temperature anisotropy and solar wind acceleration. Monthly Notices of the Royal Astronomical Society, 2015, 454, 3697-3709.	4.4	35
36	BUILDUP OF MAGNETIC SHEAR AND FREE ENERGY DURING FLUX EMERGENCE AND CANCELLATION. Astrophysical Journal, 2012, 754, 15.	4.5	34

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37	Realâ€Time SWMF at CCMC: Assessing the Dst Output From Continuous Operational Simulations. Space Weather, 2018, 16, 1583-1603.	3.7	32
38	What sustained multi-disciplinary research can achieve: The space weather modeling framework. Journal of Space Weather and Space Climate, 2021, 11, 42.	3.3	32
39	COMET 1P/HALLEY MULTIFLUID MHD MODEL FOR THE GIOTTO FLY-BY. Astrophysical Journal, 2014, 781, 86.	4.5	29
40	CHARGE STATE EVOLUTION IN THE SOLAR WIND. III. MODEL COMPARISON WITH OBSERVATIONS. Astrophysical Journal, 2014, 790, 111.	4.5	27
41	AlfvÃ©n Wave Turbulence as a Coronal Heating Mechanism: Simultaneously Predicting the Heating Rate and the Wave-induced Emission Line Broadening. Astrophysical Journal, 2017, 845, 98.	4.5	27
42	Predictions for the First Parker Solar Probe Encounter. Astrophysical Journal Letters, 2019, 872, L18.	8.3	26
43	PHOENIX: MHD spectral code for rotating laboratory and gravitating astrophysical plasmas. Journal of Computational Physics, 2007, 226, 509-533.	3.8	25
44	No additional flow continua in magnetohydrodynamics. Physics of Plasmas, 2004, 11, 4332-4340.	1.9	18
45	Medium-Range Thermosphere-Ionosphere Storm Forecasts. Space Weather, 2015, 13, 125-129.	3.7	18
46	Calculating magnetohydrodynamic flow spectra. Computer Physics Communications, 1997, 106, 39-52.	7.5	17
47	Threaded-field-line Model for the Low Solar Corona Powered by the AlfvÃ©n Wave Turbulence. Astrophysical Journal, 2021, 908, 172.	4.5	17
48	Calculation of resistive magnetohydrodynamic spectra in tokamaks. Physics of Plasmas, 1999, 6, 1554-1561.	1.9	16
49	Modelling of Solar Wind, CME Initiation and CME Propagation. Space Science Reviews, 2005, 121, 91-104.	8.1	16
50	Predictive modeling of a radiative shock system. Reliability Engineering and System Safety, 2011, 96, 1184-1193.	8.9	16
51	One Year in the Life of Young Suns: Data-constrained Corona-wind Model of Î² ¹ Ceti. Astrophysical Journal, 2021, 916, 96.	4.5	15
52	Simulating Solar Maximum Conditions Using the AlfvÃ©n Wave Solar Atmosphere Model (AWSoM). Astrophysical Journal, 2021, 923, 176.	4.5	15
53	A physics informed emulator for laser-driven radiating shock simulations. Reliability Engineering and System Safety, 2011, 96, 1194-1207.	8.9	14
54	SPECTRUM: Synthetic Spectral Calculations for Global Space Plasma Modeling. Astrophysical Journal, Supplement Series, 2019, 242, 1.	7.7	14

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55	Magnetohydrodynamic spectrum of gravitating plane plasmas with flow. Journal of Plasma Physics, 1999, 61, 221-240.	2.1	13
56	Simulating radiative shocks in nozzle shock tubes. High Energy Density Physics, 2012, 8, 161-169.	1.5	13
57	Simulating radiative shocks with the CRASH laser package. High Energy Density Physics, 2013, 9, 8-16.	1.5	13
58	CORONAL JETS SIMULATED WITH THE GLOBAL ALFVÃ‰N WAVE SOLAR MODEL. Astrophysical Journal, 2017, 834, 123.	4.5	11
59	A six-moment multi-fluid plasma model. Journal of Computational Physics, 2019, 387, 134-153.	3.8	11
60	An exact Riemann-solver-based solution for regular shock refraction. Journal of Fluid Mechanics, 2009, 627, 33-53.	3.4	9
61	Thermodynamic Structure of the Solar Corona: Tomographic Reconstructions and MHD Modeling. Solar Physics, 2020, 295, 1.	2.5	9
62	Initiation of cmes by magnetic flux emergence. Journal of Astrophysics and Astronomy, 2006, 27, 159-166.	1.0	7
63	Modeling solar wind massâ€loading in the vicinity of the Sun using 3â€Ð MHD simulations. Journal of Geophysical Research: Space Physics, 2014, 119, 18-25.	2.4	6
64	The Interaction of Coronal Mass Ejections with AlfvÃ©nic Turbulence. Journal of Physics: Conference Series, 2017, 900, 012015.	0.4	6
65	AWSoM Magnetohydrodynamic Simulation of a Solar Active Region with Realistic Spectral Synthesis. Astrophysical Journal, 2022, 928, 34.	4.5	6
66	Tomography of the Solar Corona with the Wide-Field Imager for the Parker Solar Probe. Solar Physics, 2019, 294, 1.	2.5	5
67	Jet Stability: A Computational Survey. Lecture Notes in Physics, 2009, , 179-199.	0.7	5
68	Laboratory Photoionization Fronts in Nitrogen Gas: A Numerical Feasibility and Parameter Study. Astrophysical Journal, 2018, 858, 22.	4.5	3
69	Numerical simulations of the solar corona and Coronal Mass Ejections. Earth, Planets and Space, 2009, 61, 599-602.	2.5	2
70	New numerical tools to study waves and instabilities of flowing plasmas. Computer Physics Communications, 2002, 147, 497-500.	7.5	1