Derek B Schaeffer

List of Publications by Year
in descending order

48 papers	877 citations	430754 18 h-index	477173 29 g-index
48 all docs	48 docs citations	48 times ranked	750 citing authors

#	Article	IF	Citations
1	Mars Reconnaissance Orbiter Mars Color Imager (MARCI): Instrument description, calibration, and performance. Journal of Geophysical Research, 2009, 114, .	3.3	79
2	Design, construction, and calibration of a three-axis, high-frequency magnetic probe (B-dot probe) as a diagnostic for exploding plasmas. Review of Scientific Instruments, 2009, 80, 113505.	0.6	73
3	Generation and Evolution of High-Mach-Number Laser-Driven Magnetized Collisionless Shocks in the Laboratory. Physical Review Letters, 2017, 119, 025001.	2.9	66
4	Observation of collisionless shocks in a large currentâ€free laboratory plasma. Geophysical Research Letters, 2014, 41, 7413-7418.	1.5	62
5	Dynamics of exploding plasmas in a large magnetized plasma. Physics of Plasmas, 2013, 20, .	0.7	45
6	Collisionless interaction of an energetic laser produced plasma with a large magnetoplasma. Astrophysics and Space Science, 2009, 322, 155-159.	0.5	40
7	Generation of magnetized collisionless shocks by a novel, laser-driven magnetic piston. Physics of Plasmas, 2012, 19, .	0.7	34
8	High-energy Nd:glass laser facility for collisionless laboratory astrophysics. Journal of Instrumentation, 2012, 7, P03010-P03010.	0.5	34
9	Direct Observations of Particle Dynamics in Magnetized Collisionless Shock Precursors in Laser-Produced Plasmas. Physical Review Letters, 2019, 122, 245001.	2.9	33
10	Hybrid simulation of shock formation for super-AlfvÃ©nic expansion of laser ablated debris through an ambient, magnetized plasma. Physics of Plasmas, 2013, 20, .	0.7	29
11	Collisionless momentum transfer in space and astrophysical explosions. Nature Physics, 2017, 13, 573-577.	6.5	26
12	On the generation of magnetized collisionless shocks in the large plasma device. Physics of Plasmas, 2017, 24, .	0.7	26
13	Kinetic simulation of magnetic field generation and collisionless shock formation in expanding laboratory plasmas. Physics of Plasmas, 2018, 25, .	0.7	26
14	Characterization of laser-produced carbon plasmas relevant to laboratory astrophysics. Journal of Applied Physics, 2016, 120, .	1.1	24
15	High-Mach number, laser-driven magnetized collisionless shocks. Physics of Plasmas, 2017, 24, .	0.7	23
16	Laser-driven, magnetized quasi-perpendicular collisionless shocks on the Large Plasma Device. Physics of Plasmas, 2014, 21, .	0.7	22
17	Experimental study of subcritical laboratory magnetized collisionless shocks using a laser-driven magnetic piston. Physics of Plasmas, 2015, 22, .	0.7	22
18	Demonstration of a low electromagnetic pulse laser-driven argon gas jet x-ray source. Applied Physics Letters, 2012, 101, .	1.5	19

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19	Observations of a field-aligned ion/ion-beam instability in a magnetized laboratory plasma. Physics of Plasmas, 2018, 25, .	0.7	19
20	A platform for high-repetition-rate laser experiments on the Large Plasma Device. High Power Laser Science and Engineering, 2018, 6, .	2.0	14
21	Biermann-Battery-Mediated Magnetic Reconnection in 3D Colliding Plasmas. Physical Review Letters, 2018, 121, 095001.	2.9	12
22	Kinetic simulations of piston-driven collisionless shock formation in magnetized laboratory plasmas. Physics of Plasmas, 2020, 27, .	0.7	12
23	Laboratory Observations of Ultra-low-frequency Analog Waves Driven by the Right-hand Resonant Ion Beam Instability. Astrophysical Journal Letters, 2020, 891, L11.	3.0	12
24	Bias Voltage Control in Pulsed Applications for Machâ€"Zehnder Electrooptic Intensity Modulators. IEEE Transactions on Control Systems Technology, 2017, 25, 1890-1895.	3.2	10
25	Collisionless Shocks in a Large Magnetized Laser-Plasma Plume. IEEE Transactions on Plasma Science, 2011, 39, 2406-2407.	0.6	9
26	Laser-driven, ion-scale magnetospheres in laboratory plasmas. I. Experimental platform and first results. Physics of Plasmas, 2022, 29, .	0.7	9
27	Thomson Scattering Measurements of Temperature and Density in a Low-Density, Laser-Driven Magnetized Plasma. Journal of Instrumentation, 2012, 7, P02002-P02002.	0.5	8
28	Enhanced collisionless shock formation in a magnetized plasma containing a density gradient. Physical Review E, 2014, 90, 041101.	0.8	8
29	Fast gated imaging of the collisionless interaction of a laser-produced and magnetized ambient plasma. High Energy Density Physics, 2017, 22, 17-20.	0.4	7
30	Laboratory study of collisionless coupling between explosive debris plasma and magnetized ambient plasma. Physics of Plasmas, 2017, 24, .	0.7	7
31	Raster Thomson scattering in large-scale laser plasmas produced at high repetition rate. Review of Scientific Instruments, 2021, 92, 093102.	0.6	7
32	High repetition rate exploration of the Biermann battery effect in laser produced plasmas over large spatial regions. High Power Laser Science and Engineering, 2022, 10, .	2.0	7
33	A scalable multipass laser cavity based on injection by frequency conversion for noncollective Thomson scattering. Review of Scientific Instruments, 2010, 81, 10D518.	0.6	6
34	Feasibility of characterizing laser-ablated carbon plasmas via planar laser induced fluorescence. Review of Scientific Instruments, 2012, 83, 10E515.	0.6	5
35	Spatially resolved Thomson scattering measurements of the transition from the collective to the non-collective regime in a laser-produced plasma. Review of Scientific Instruments, 2016, 87, 11E701.	0.6	5
36	Laser-produced plasmas as drivers of laboratory collisionless quasi-parallel shocks. Physics of Plasmas, 2020, 27, 042103.	0.7	5

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37	Proton deflectometry with <i>in situ</i> x-ray reference for absolute measurement of electromagnetic fields in high-energy-density plasmas. Review of Scientific Instruments, 2022, 93, 023502.	0.6	4
38	Laser-driven, ion-scale magnetospheres in laboratory plasmas. II. Particle-in-cell simulations. Physics of Plasmas, 2022, 29, .	0.7	4
39	Ion velocity distribution measurements in a magnetized laser plasma expansion. Journal of Instrumentation, 2010, 5, P06004-P06004.	0.5	3
40	Mapping the ionization state of laser-irradiated Ar gas jets with multiwavelength monochromatic x-ray imaging. Review of Scientific Instruments, 2010, 81, 10E526.	0.6	3
41	Regimes of magnetic reconnection in colliding laser-produced magnetized plasma bubbles. Physics of Plasmas, 2018, 25, .	0.7	3
42	Measurements of ion velocity distributions in a large scale laser-produced plasma. Review of Scientific Instruments, 2020, 91, 103103.	0.6	3
43	Kinetic Simulations of Electron Pre-energization by Magnetized Collisionless Shocks in Expanding Laboratory Plasmas. Astrophysical Journal Letters, 2021, 908, L52.	3.0	3
44	Design of proton deflectometry with in situ x-ray fiducial for magnetized high-energy-density systems. Applied Optics, 2022, 61, C133.	0.9	3
45	Magnetic field measurements in low density plasmas using paramagnetic Faraday rotator glass. Review of Scientific Instruments, 2012, 83, 10D503.	0.6	2
46	Spectroscopic measurement of high-frequency electric fields in the interaction of explosive debris plasma with magnetized background plasma. Physics of Plasmas, 2014, 21, .	0.7	2
47	Measurements of electron temperature in high-energy-density plasmas using gated x-ray pinhole imaging. Review of Scientific Instruments, 2021, 92, 043524.	0.6	2
48	Proton radiography of non-uniform initial magnetic fields in HED plasmas. , 2021, , .		0