Zoltan Sternovsky

List of Publications by Year
in descending order

115 papers	2,469 citations	218677 26 h-index	233421 45 g-index
120 all docs	120 docs citations	120 times ranked	1739 citing authors

#	Article	IF	Citations
1	Trapped ion effect on shielding, current flow, and charging of a small object in a plasma. Physics of Plasmas, 2003, 10, 1500-1513.	1.9	190
2	A permanent, asymmetric dust cloud around the Moon. Nature, 2015, 522, 324-326.	27.8	174
3	Interstellar Mapping and Acceleration Probe (IMAP): A New NASA Mission. Space Science Reviews, 2018, 214, 1.	8.1	129
4	The Lunar Dust Experiment (LDEX) Onboard the Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission. Space Science Reviews, 2014, 185, 93-113.	8.1	97
5	The lunar dust environment. Planetary and Space Science, 2011, 59, 1672-1680.	1.7	96
6	Contact charging of lunar and Martian dust simulants. Journal of Geophysical Research, 2002, 107, 15-1-15-8.	3.3	88
7	Variability of the lunar photoelectron sheath and dust mobility due to solar activity. Journal of Geophysical Research, 2008, 113, .	3.3	84
8	3 MV hypervelocity dust accelerator at the Colorado Center for Lunar Dust and Atmospheric Studies. Review of Scientific Instruments, 2012, 83, 075108.	1.3	66
9	Micrometeoroid impact charge yield for common spacecraft materials. Journal of Geophysical Research: Space Physics, 2014, 119, 6019-6026.	2.4	57
10	The science case for an orbital mission to Uranus: Exploring the origins and evolution of ice giant planets. Planetary and Space Science, 2014, 104, 122-140.	1.7	56
11	A 2 MV Van de Graaff accelerator as a tool for planetary and impact physics research. Review of Scientific Instruments, 2011, 82, 095111.	1.3	53
12	Mass analysis of charged aerosol particles in NLC and PMSE during the ECOMA/MASS campaign. Annales Geophysicae, 2009, 27, 1213-1232.	1.6	51
13	Charging of dust particles on surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 2533-2541.	2.1	46
14	Active space debris charging for contactless electrostatic disposal maneuvers. Advances in Space Research, 2014, 53, 110-118.	2.6	42
15	In-situ measurement of smoke particles in the wintertime polar mesosphere between 80 and 85km altitude. Journal of Atmospheric and Solar-Terrestrial Physics, 2008, 70, 61-70.	1.6	40
16	Laboratory investigation of antenna signals from dust impacts on spacecraft. Journal of Geophysical Research: Space Physics, 2015, 120, 5298-5305.	2.4	40
17	Surface potential of small particles charged by the medium-energy electron beam. Vacuum, 1998, 50, 139-142.	3.5	39
18	Mass spectrometry of hyperâ€velocity impacts of organic micrograins. Rapid Communications in Mass Spectrometry, 2009, 23, 3895-3906.	1.5	39

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19	Ion collection by cylindrical probes in weakly collisional plasmas: Theory and experiment. Journal of Applied Physics, 2003, 94, 1374-1381.	2.5	38
20	Monte Carlo model of ion mobility and diffusion for low and high electric fields. Physical Review E, 2003, 67, 046405.	2.1	33
21	Large area mass analyzer instrument for the chemical analysis of interstellar dust particles. Review of Scientific Instruments, 2007, 78, 014501.	1.3	33
22	Compositional mapping of planetary moons by mass spectrometry of dust ejecta. Planetary and Space Science, 2011, 59, 1815-1825.	1.7	33
23	Measurements of the ionization coefficient of simulated iron micrometeoroids. Geophysical Research Letters, 2016, 43, 3645-3652.	4.0	29
24	The contribution of charge exchange ions to cylindrical Langmuir probe current. Physics of Plasmas, 2003, 10, 300-309.	1.9	27
25	A laboratory model of the lunar surface potential near boundaries between sunlit and shadowed regions. Geophysical Research Letters, 2007, 34, .	4.0	27
26	Revisiting STEREO interplanetary and interstellar dust flux and mass estimates. Journal of Geophysical Research: Space Physics, 2015, 120, 6085-6100.	2.4	27
27	Characteristic temperatures of hypervelocity dust impact plasmas. Journal of Geophysical Research: Space Physics, 2016, 121, 8182-8187.	2.4	27
28	Detection of meteoric smoke particles in the mesosphere by a rocket-borne mass spectrometer. Journal of Atmospheric and Solar-Terrestrial Physics, 2014, 118, 161-179.	1.6	26
29	Dust observations with antenna measurements and its prospects for observations with Parker Solar Probe and Solar Orbiter. Annales Geophysicae, 2019, 37, 1121-1140.	1.6	26
30	Reduction of asymmetry transport in the annular Penning trap. Physics of Plasmas, 2004, 11, 1753-1756.	1.9	25
31	Effect of charge exchange ions upon Langmuir probe current. Applied Physics Letters, 2002, 81, 1961-1963.	3.3	24
32	Langmuir probe interpretation for plasmas with secondary electrons from the wall. Physics of Plasmas, 2004, 11, 3610-3615.	1.9	24
33	Laboratory modeling of dust impact detection by the Cassini spacecraft. Planetary and Space Science, 2018, 156, 85-91.	1.7	24
34	Method to find the electron distribution function from cylindrical probe data. Physical Review E, 2006, 73, 066402.	2.1	21
35	Impact ionisation mass spectrometry of polypyrrole-coated pyrrhotite microparticles. Planetary and Space Science, 2014, 97, 9-22.	1.7	21
36	Numerical solutions to a kinetic model for the plasma-sheath problem with charge exchange collisions of ions. Physical Review E, 2004, 70, 026408.	2.1	20

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37	Linear high resolution dust mass spectrometer for a mission to the Galilean satellites. Planetary and Space Science, 2012, 65, 10-20.	1.7	20
38	Time-resolved temperature measurements in hypervelocity dust impact. Planetary and Space Science, 2013, 89, 58-62.	1.7	20
39	Orbiting Ions in the Debye Shielding Cloud Around Dust Particles in Weakly Collisional Plasmas. IEEE Transactions on Plasma Science, 2004, 32, 632-636.	1.3	19
40	The effect of ionâ€"neutral collisions on the weakly collisional plasma-sheath and the reduction of the ion flux to the wall. Plasma Sources Science and Technology, 2005, 14, 32-35.	3.1	19
41	Impact Ejecta and Gardening in the Lunar Polar Regions. Journal of Geophysical Research E: Planets, 2019, 124, 143-154.	3.6	19
42	Understanding Cassini RPWS Antenna Signals Triggered by Dust Impacts. Geophysical Research Letters, 2019, 46, 10941-10950.	4.0	18
43	Model for the density, temperature, and plasma potential of low-density hot-filament discharges. Physical Review E, 2005, 72, 016402.	2.1	17
44	Numerical solutions to the weakly collisional plasma and sheath in the fluid approach and the reduction of the ion current to the wall. IEEE Transactions on Plasma Science, 2006, 34, 850-854.	1.3	16
45	Characteristics of a dust trajectory sensor. Review of Scientific Instruments, 2008, 79, 084501.	1.3	16
46	Impact ionisation mass spectrometry of platinum-coated olivine and magnesite-dominated cosmic dust analogues. Planetary and Space Science, 2018, 156, 96-110.	1.7	16
47	Dust Observations by the Radio and Plasma Wave Science Instrument During Cassini's Grand Finale. Geophysical Research Letters, 2018, 45, 10,101.	4.0	16
48	Ion field emission from micrometer-sized spherical glass grains. IEEE Transactions on Plasma Science, 2001, 29, 292-297.	1.3	15
49	Collision cross sections of small water clusters. Physical Review A, 2001, 64, .	2.5	15
50	Impact ionization mass spectra of anorthite cosmic dust analogue particles. Journal of Geophysical Research, 2012, 117, .	3.3	15
51	Interpreting Dust Impact Signals Detected by the STEREO Spacecraft. Journal of Geophysical Research: Space Physics, 2017, 122, 11,864.	2.4	15
52	Potential distribution around sounding rockets in mesospheric layers with charged aerosol particles. Geophysical Research Letters, 2004, 31, .	4.0	14
53	The Electrostatic Lunar Dust Analyzer (ELDA) for the detection and trajectory measurement of slow-moving dust particles from the lunar surface. Planetary and Space Science, 2011, 59, 1446-1454.	1.7	14
54	Production of neutral gas by micrometeoroid impacts. Icarus, 2014, 227, 89-93.	2.5	14

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55	The ionization efficiency of aluminum and iron at meteoric velocities. Planetary and Space Science, 2018, 156, 111-116.	1.7	14
56	Sample return of interstellar matter (SARIM). Experimental Astronomy, 2009, 23, 303-328.	3.7	13
57	On the application of a linear time-of-flight mass spectrometer for the investigation of hypervelocity impacts of micron and sub-micron sized dust particles. Planetary and Space Science, 2013, 89, 47-57.	1.7	12
58	Experimental setup for the laboratory investigation of micrometeoroid ablation using a dust accelerator. Review of Scientific Instruments, 2017, 88, 034501.	1.3	12
59	A rocket-borne mass analyzer for charged aerosol particles in the mesosphere. Review of Scientific Instruments, 2008, 79, 104502.	1.3	11
60	DuneXpress. Experimental Astronomy, 2009, 23, 981-999.	3.7	11
61	A self-triggered dust trajectory sensor. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 622, 74-82.	1.6	11
62	Active Cosmic Dust Collector. Planetary and Space Science, 2012, 60, 261-273.	1.7	11
63	Characterizing spacecraft potential effects on measured particle trajectories. Physics of Plasmas, 2019, 26, .	1.9	11
64	Rocket-Borne Probes for Charged Ionospheric Aerosol Particles. IEEE Transactions on Plasma Science, 2004, 32, 716-723.	1.3	10
65	Development of the nano-dust analyzer (NDA) for detection and compositional analysis of nanometer-size dust particles originating in the inner heliosphere. Review of Scientific Instruments, 2014, 85, 035113.	1.3	10
66	Energy balance and plasma potential in low-density hot-filament discharges. IEEE Transactions on Plasma Science, 2006, 34, 844-849.	1.3	9
67	Novel instrument for Dust Astronomy: Dust Telescope. , 2011, , .		9
68	Dust trajectory sensor: Accuracy and data analysis. Review of Scientific Instruments, 2011, 82, 105104.	1.3	9
69	Wavelet Compression Performance of MMS/FPI Plasma Count Data with Plasma Environment. Earth and Space Science, 2019, 6, 116-135.	2.6	8
70	Modeling the Altitude Distribution of Meteor Head Echoes Observed with HPLA Radars: Implications for the Radar Detectability of Meteoroid Populations. Astronomical Journal, 2019, 157, 179.	4.7	8
71	The effect of high-velocity dust particle impacts on microchannel plate (MCP) detectors. Planetary and Space Science, 2020, 183, 104628.	1.7	8
72	Magnetic Field Effect on Antenna Signals Induced by Dust Particle Impacts. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027245.	2.4	8

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73	Comparison of two microwave and two probe methods for measuring plasma density. IEEE Transactions on Plasma Science, 2006, 34, 786-791.	1.3	7
74	Laboratory Study of Antenna Signals Generated by Dust Impacts on Spacecraft. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028965.	2.4	7
75	Effect of the induced-dipole force on charging rates of aerosol particles. Physics of Plasmas, 2008, 15, 040702.	1.9	6
76	Laboratory testing and data analysis of the Electrostatic Lunar Dust Analyzer (ELDA) instrument. Planetary and Space Science, 2013, 89, 63-70.	1.7	6
77	Instrument study of the Lunar Dust eXplorer (LDX) for a lunar lander mission. Advances in Space Research, 2014, 54, 2094-2100.	2.6	6
78	Effects of interplanetary coronal mass ejections on the transport of nano-dust generated in the inner solar system. Planetary and Space Science, 2018, 156, 7-16.	1.7	5
79	Microchannel Plate Efficiency to Detect Low Velocity Dust Impacts. Journal of Geophysical Research: Space Physics, 2018, 123, 9936-9940.	2.4	5
80	Electrostatic Model for Antenna Signal Generation From Dust Impacts. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029645.	2.4	5
81	Differential Ablation of Organic Coatings From Micrometeoroids Simulated in the Laboratory. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	5
82	Smoky Plasma. IEEE Transactions on Plasma Science, 2007, 35, 314-322.	1.3	4
83	On the applicability of laser ionization for simulating hypervelocity impacts. Journal of Applied Physics, 2012, 112, 103301.	2.5	4
84	New experimental capability to investigate the hypervelocity micrometeoroid bombardment of cryogenic surfaces. Review of Scientific Instruments, 2016, 87, 024502.	1.3	4
85	The Main-belt Asteroid and NEO Tour with Imaging and Spectroscopy (MANTIS). , 2016, , .		4
86	Variation in relative dust impact charge recollection with antenna to spacecraft potential on STEREO. Journal of Geophysical Research: Space Physics, 2016, 121, 4998-5004.	2.4	4
87	Using dust shed from asteroids as microsamples to link remote measurements with meteorite classes. Meteoritics and Planetary Science, 2019, 54, 2046-2066.	1.6	4
88	Analysis of the electron and ion fluxes to the wall of a hot-filament discharge device. Physics of Plasmas, 2007, 14, 043503.	1.9	3
89	Characteristics of a new dust coordinate sensor. Measurement Science and Technology, 2012, 23, 105902.	2.6	3
90	SARIM PLUSâ€"sample return of comet 67P/CG and of interstellar matter. Experimental Astronomy, 2012, 33, 723-751.	3.7	3

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91	Hyperdust: An advanced in-situ detection and chemical analysis of microparticles in space. , 2015, , .		3
92	Optimization of the Nano-Dust Analyzer (NDA) for operation under solar UV illumination. Planetary and Space Science, 2015, 119, 173-180.	1.7	3
93	The Lunar Dust Experiment (LDEX) Onboard the Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission. , 2015, , 93-113.		3
94	Effective Temperatures of Olivine Dust Impact Plasmas. IEEE Transactions on Plasma Science, 2020, 48, 4298-4304.	1.3	3
95	In-situ detection of noctilucent cloud particles by the Colorado Dust Detectors onboard the PHOCUS sounding rocket. Journal of Atmospheric and Solar-Terrestrial Physics, 2014, 118, 145-150.	1.6	2
96	Highâ€Speed Drag Measurements of Aluminum Particles in Free Molecular Flow. Journal of Geophysical Research: Space Physics, 2019, 124, 3743-3751.	2.4	2
97	Detection of Dust Particles Using Faraday Cup Instruments. Astrophysical Journal, 2021, 909, 132.	4.5	2
98	Lunar and Martian dust charging on surfaces. AIP Conference Proceedings, 2002, , .	0.4	1
99	Frontiers in In-Situ Cosmic Dust Detection and Analysis. AIP Conference Proceedings, 2011, , .	0.4	1
100	A linear tof mass spectrometer as a tool for the investigation of impact ionisation plasma. , 2012, , .		1
101	Channel electron multiplier operated on a sounding rocket without a cryogenic vacuum pump from 120 to 80km altitude. Journal of Atmospheric and Solar-Terrestrial Physics, 2013, 95-96, 51-58.	1.6	1
102	Remote Charging Mechanics for Electrostatic Inflation of Membrane Space Structures. , 2013, , .		1
103	Physically Accurate Large Dynamic Range Pseudo Moments for the MMS Fast Plasma Investigation. Earth and Space Science, 2018, 5, 503-515.	2.6	1
104	Fragments from the Origins of the Solar System and our Interstellar Locale (FOSSIL): A Cometary, Asteroidal, and Interstellar Dust Mission Concept. , 2019, , .		1
105	Contact charging of lunar and Martian dust simulants. , 2002, 107, 15-1.		1
106	Charge Exchange Collisions and the Current to Probes and Dust Particles. AIP Conference Proceedings, 2002, , .	0.4	0
107	Rocket-born instrument to detect charged smoke and cloud particles in the mesospheric region. , 0, , .		0
108	Langmuir probe interpretation for plasmas with secondary electrons from the wall. , 0, , .		0

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109	Numerical solutions to a kinetic model for sheath and presheath with charge exchange collisions of ions. , 0, , .		0
110	Surface Potentials Near the UV Light/Dark Boundary. , 2007, , .		0
111	Analysis of the Electron and Ion Fluxes to the Wall of a Hot-Filament Discharge Device. , 2007, , .		0
112	Surfaceâ€"Plasma Interaction on the Moon. AIP Conference Proceedings, 2008, , .	0.4	0
113	Special Issue on Physics of Dusty Plasmas 2010. IEEE Transactions on Plasma Science, 2010, 38, 766-767.	1.3	0
114	The Dust Accelerator Facility of the Colorado Center for Lunar Dust and Atmospheric Studies. AIP Conference Proceedings, 2011, , .	0.4	0
115	Determination of impact position on an impact ionization detector by electrostatic induction. Advances in Space Research, 2018, 62, 890-895.	2.6	0