Joshua E Colwell

List of Publications by Year
in descending order

119	4,872	38	65
papers	citations	h-index	g-index
		87888	106344

130	130	130	2572
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Enceladus' Water Vapor Plume. Science, 2006, 311, 1422-1425.	12.6	473
2	Lunar surface: Dust dynamics and regolith mechanics. Reviews of Geophysics, 2007, 45, .	23.0	272
3	The Cassini Ultraviolet Imaging Spectrograph Investigation. Space Science Reviews, 2004, 115, 299-361.	8.1	210
4	Accretion in the Edgeworth-Kuiper Belt: Forming 100-1000 KM Radius Bodies at 30 AU and Beyond.. Astronomical Journal, 1997, 114, 841.	4.7	138
5	Collisional Erosion in the Primordial Edgewortha€Kuiper Belt and the Generation of the 30â€"50 AU Kuiper Gap. Astrophysical Journal, 1997, 490, 879-882.	4.5	137
6	The composition and structure of the Enceladus plume. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	136
7	An Evolving View of Saturnâ€™s Dynamic Rings. Science, 2010, 327, 1470-1475.	12.6	127
8	Ultraviolet Imaging Spectroscopy Shows an Active Saturnian System. Science, 2005, 307, 1251-1255.	12.6	125
9	Photoelectric Charging of Dust Particles in Vacuum. Physical Review Letters, 2000, 84, 6034-6037.	7.8	118
10	Dust transport in photoelectron layers and the formation of dust ponds on Eros. Icarus, 2005, 175, 159-169.	2.5	115
11	Water vapour jets inside the plume of gas leaving Enceladus. Nature, 2008, 456, 477-479.	27.8	115
12	Experimental investigations on photoelectric and triboelectric charging of dust. Journal of Geophysical Research, 2001, 106, 8343-8356.	3.3	113
13	Self-gravity wakes and radial structure of Saturn's B ring. Icarus, 2007, 190, 127-144.	2.5	113
14	Self-gravity wakes in Saturn's A ring measured by stellar occultations from Cassini. Geophysical Research Letters, 2006, 33, .	4.0	99
15	Mercury: Thermal Modeling and Mid-infrared (5â€"12 Î¼m) Observations. Icarus, 1998, 136, 104-123.	2.5	90
16	Contact charging of lunar and Martian dust simulants. Journal of Geophysical Research, 2002, 107, 15-1-15-8.	3.3	88
17	The auroral footprint of Enceladus on Saturn. Nature, 2011, 472, 331-333.	27.8	82
18	A New Mechanism Relevant to the Formation of Planetesimals in the Solar Nebula. Icarus, 2001, 151, 318-321.	2.5	73

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19	Experimental levitation of dust grains in a plasma sheath. Journal of Geophysical Research, 2002, 107, SMP 37-1.	3.3	73
20	Titan airglow spectra from Cassini Ultraviolet Imaging Spectrograph (UVIS): EUV analysis. Geophysical Research Letters, 2007, 34, .	4.0	69
21	Lunar Dust Levitation. Journal of Aerospace Engineering, 2009, 22, 2-9.	1.4	69
22	Low velocity impacts into dust: results from the COLLIDE-2 microgravity experiment. Icarus, 2003, 164, 188-196.	2.5	68
23	Estimating the masses of Saturnâ€™s A and B rings from high-optical depth N-body simulations and stellar occultations. Icarus, 2010, 206, 431-445.	2.5	62
24	The Structure of Saturn's Rings. , 2009, , 375-412.		62
25	A numerical model of the Uranian dust rings. Icarus, 1990, 86, 530-560.	2.5	58
26	Electrostatic dust transport on Eros: 3-D simulations of pond formation. Icarus, 2008, 195, 630-648.	2.5	56
27	Low-Velocity Microgravity Impact Experiments into Simulated Regolith. Icarus, 1999, 138, 241-248.	2.5	54
28	Moonlets and clumps in Saturn's F ring. Icarus, 2008, 194, 278-289.	2.5	54
29	Photometry from Voyager 2: Initial Results from the Neptunian Atmosphere, Satellites, and Rings. Science, 1989, 246, 1450-1454.	12.6	49
30	Noncircular features in Saturnâ€™s rings IV: Absolute radius scale and Saturnâ€™s pole direction. Icarus, 2017, 290, 14-45.	2.5	48
31	Density waves in Cassini UVIS stellar occultations. Icarus, 2009, 200, 574-580.	2.5	47
32	Waves in Cassini UVIS stellar occultations. Icarus, 2011, 216, 292-308.	2.5	47
33	Capture of Interplanetary and Interstellar Dust by the Jovian Magnetosphere. Science, 1998, 280, 88-91.	12.6	46
34	CASSINI UVIS STELLAR OCCULTATION OBSERVATIONS OF SATURN's RINGS. Astronomical Journal, 2010, 140, 1569-1578.	4.7	46
35	Origins of the rings of Uranus and Neptune: 2. Initial conditions and ring moon populations. Journal of Geophysical Research, 1993, 98, 7387-7401.	3.3	45
36	Origins of the rings of Uranus and Neptune: 1. Statistics of satellite disruptions. Journal of Geophysical Research, 1992, 97, 10227-10241.	3.3	44

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37	A model of dust production in the Neptune ring system. Geophysical Research Letters, 1990, 17, 1741-1744.	4.0	43
38	Radiation transport of heliospheric Lyman-<i>Î±</i> from combined Cassini and Voyager data sets. Astronomy and Astrophysics, 2008, 491, 21-28.	5.1	42
39	Creation of the Uranus rings and dust bands. Nature, 1989, 339, 605-607.	27.8	41
40	Charge of Dust on Surfaces in Plasma. IEEE Transactions on Plasma Science, 2007, 35, 271-279.	1.3	41
41	Cassini UVIS observations of Jupiter's auroral variability. Icarus, 2005, 178, 312-326.	2.5	39
42	Ejecta from impacts at 0.2â€"2.3 m/s in low gravity. Icarus, 2008, 195, 908-917.	2.5	38
43	The disruption of planetary satellites and the creation of planetary rings. Planetary and Space Science, 1994, 42, 1139-1149.	1.7	36
44	Aerodynamical sticking of dust aggregates. Physical Review E, 2001, 64, 046301.	2.1	36
45	METER-SIZED MOONLET POPULATION IN SATURN'S C RING AND CASSINI DIVISION. Astronomical Journal, 2013, 145, 171.	4.7	36
46	Size distributions of circumplanetary dust. Advances in Space Research, 1996, 17, 161-170.	2.6	34
47	Characterizing the particle size distribution of Saturnâ€™s A ring with Cassini UVIS occultation data. Icarus, 2016, 279, 20-35.	2.5	34
48	Cassini uvis observations of Saturns rings. Planetary and Space Science, 1998, 46, 1221-1235.	1.7	32
49	Dust grain charging and levitation in a weakly collisional sheath. Physics of Plasmas, 2003, 10, 3874-3880.	1.9	31
50	A predatorâ€"prey model for moon-triggered clumping in Saturnâ€™s rings. Icarus, 2012, 217, 103-114.	2.5	31
51	Deciphering the embedded wave in Saturnâ€™s Maxwell ringlet. Icarus, 2016, 279, 62-77.	2.5	31
52	Regolith behavior under asteroid-level gravity conditions: low-velocity impact experiments. Progress in Earth and Planetary Science, 2018, 5, .	3.0	31
53	Voyager photopolarimeter observations of Uranian ring occultations. Icarus, 1990, 83, 102-125.	2.5	30
54	Saturn's Rings: pre-Cassini Status and Mission Goals. Space Science Reviews, 2002, 104, 209-251.	8.1	29

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55	Noncircular features in Saturnâ€™s rings II: The C ring. Icarus, 2014, 241, 373-396.	2.5	29
56	The composition and structure of Enceladus' plume from the complete set of Cassini UVIS occultation observations. Icarus, 2020, 344, 113461.	2.5	29
57	Evolution of topography on comets II. Icy craters and trenches. Icarus, 1990, 85, 205-215.	2.5	28
58	Noncircular features in Saturnâ€™s rings I: The edge of the B ring. Icarus, 2014, 227, 152-175.	2.5	28
59	Fragmentation rates of small satellites in the outer solar system. Journal of Geophysical Research, 2000, 105, 17589-17599.	3.3	27
60	3D DEM simulations and experiments exploring low-velocity projectile impacts into a granular bed. Powder Technology, 2016, 288, 303-314.	4.2	24
61	Far ultraviolet spectral properties of Saturnâ€™s rings from Cassini UVIS. Icarus, 2010, 206, 458-466.	2.5	23
62	Saturnâ€™s F ring as seen by Cassini UVIS: Kinematics and statistics. Icarus, 2012, 217, 367-388.	2.5	21
63	Magnetospheric effects on micrometeoroid fluxes. Journal of Geophysical Research, 1996, 101, 2169-2175.	3.3	20
64	Morphology and variability of the Titan ringlet and Huygens ringlet edges. Icarus, 2011, 216, 280-291.	2.5	20
65	Investigation of diurnal variability of water vapor in Enceladus' plume by the Cassini ultraviolet imaging spectrograph. Geophysical Research Letters, 2017, 44, 672-677.	4.0	20
66	The Physics of Protoplanetesimal Dust Agglomerates. VIII. Microgravity Collisions between Porous SiO₂ Aggregates and Loosely Bound Agglomerates. Astrophysical Journal, 2017, 836, 94.	4.5	20
67	Dynamics of dust ejected from Enceladus: Application to the Cassini dust detector. Journal of Geophysical Research, 1999, 104, 24111-24120.	3.3	19
68	Jupiter's exogenic dust ring. Journal of Geophysical Research, 1998, 103, 20023-20030.	3.3	18
69	A General Formulation for the Distribution of Impacts and Ejecta from Small Planetary Satellites. Icarus, 1993, 106, 536-548.	2.5	17
70	Small particles and self-gravity wakes in Saturn's rings from UVIS and VIMS stellar occultations. Icarus, 2016, 279, 36-50.	2.5	17
71	Close-range remote sensing of Saturnâ€™s rings during Cassiniâ€™s ring-grazing orbits and Grand Finale. Science, 2019, 364, .	12.6	17
72	<title>HYDICE system performance: an update</title>. , 1996, 2821, 76.		16

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73	The evolution of topography on a comet. Icarus, 1987, 72, 128-134.	2.5	15
74	Size Distributions of Satellite Dust Ejecta: Effects of Radiation Pressure and Planetary Oblateness. Icarus, 1993, 105, 363-369.	2.5	15
75	Noncircular features in Saturnâ€™s rings III: The Cassini Division. Icarus, 2016, 274, 131-162.	2.5	15
76	Comet Lightcurves: Effects of Active Regions and Topography. Icarus, 1997, 125, 406-415.	2.5	14
77	Saturnâ€™s F Ring core: Calm in the midst of chaos. Icarus, 2014, 232, 157-175.	2.5	13
78	Effects of topography on thermal infrared spectra of planetary surfaces. Journal of Geophysical Research, 2002, 107, 16-1-16-6.	3.3	12
79	Hydrodynamical and radiative transfer modeling of meteoroid impacts into Saturn's rings. Icarus, 2008, 194, 623-635.	2.5	12
80	Scattering properties of Saturnâ€™s rings in the far ultraviolet from Cassini UVIS spectra. Icarus, 2013, 225, 726-739.	2.5	11
81	Kronos: exploring the depths of Saturn with probes and remote sensing through an international mission. Experimental Astronomy, 2009, 23, 947-976.	3.7	10
82	Particle sizes in Saturn's rings from UVIS stellar occultations 1. Variations with ring region. Icarus, 2018, 300, 150-166.	2.5	10
83	<title>Measurement of the HYDICE system MTF from flight imagery</title>. , 1996, , .		9
84	SIGNATURES OF RECENT ASTEROID DISRUPTIONS IN THE FORMATION AND EVOLUTION OF SOLAR SYSTEM DUST BANDS. Astrophysical Journal, 2015, 811, 66.	4.5	8
85	Tenuous ring formation by the capture of interplanetary dust at Saturn. Journal of Geophysical Research, 2005, 110, .	3.3	7
86	NanoRocks: Design and performance of an experiment studying planet formation on the International Space Station. Review of Scientific Instruments, 2017, 88, 074502.	1.3	7
87	Observations of Neptunian rings by Voyager Photopolarmeter Experiment. Geophysical Research Letters, 1990, 17, 1745-1748.	4.0	6
88	The Strata-1 experiment on small body regolith segregation. Acta Astronautica, 2018, 142, 87-94.	3.2	6
89	The Cassini Ultraviolet Imaging Spectrograph Investigation. , 2004, , 299-361.		5
90	Thermal transport in Saturnâ€™s B ring inferred from Cassini CIRS. Icarus, 2015, 254, 157-177.	2.5	5

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91	Cassini UVIS solar occultations by Saturnâ€™s F ring and the detection of collision-produced micron-sized dust. Icarus, 2018, 306, 171-199.	2.5	5
92	ON THE LINEAR DAMPING RELATION FOR DENSITY WAVES IN SATURNâ€™S RINGS. Astrophysical Journal, 2016, 824, 33.	4.5	4
93	Multi-particle collisions in microgravity: Coefficient of restitution and sticking threshold for systems of mm-sized particles. Astronomy and Astrophysics, 2019, 631, A35.	5.1	4
94	CubeSat Particle Aggregation Collision Experiment (Q-PACE): Design of a 3U CubeSat mission to investigate planetesimal formation. Acta Astronautica, 2019, 155, 131-142.	3.2	4
95	Stick-slip Dynamics in Penetration Experiments on Simulated Regolith. Planetary Science Journal, 2021, 2, 243.	3.6	4
96	Saturn's C ring and Cassini division: Particle sizes from Cassini UVIS, VIMS, and RSS occultations. Icarus, 2020, 344, 113565.	2.5	3
97	Captured dust in planetary magnetospheres. , 1998, , .		2
98	Photoelectric Charging of Dust Particles. , 2000, , 367-372.		2
99	Dust Capture by the Saturnian Magnetosphere. IEEE Transactions on Plasma Science, 2004, 32, 598-600.	1.3	2
100	Sharp Gap Edges in Dense Planetary Rings: An Axisymmetric Diffusion Model. Astrophysical Journal, 2019, 872, 153.	4.5	2
101	<title>In-flight radiometric stability of HYDICE for large and small uniform reflectance targets under various conditions</title>. , 1996, 2821, 300.		1
102	Experimental Dust Levitation in a Plasma Sheath near a Surface. AIP Conference Proceedings, 2002, , .	0.4	1
103	Science opportunity analyzer - a multi-mission approach to science planning. , 0, , .		1
104	Plasmonic enhancement of thin-film solar cells using gold-black coatings. , 2011, , .		1
105	Metal-black scattering centers to enhance light harvesting by thin-film solar cells. Proceedings of SPIE, 2011, , .	0.8	1
106	Cassini's grand finale. Physics World, 2017, 30, 25-28.	0.0	1
107	Cassini CIRS and ISS opposition effects of Saturnâ€™s rings â€“ I. C ring narrow or broad surge?. Monthly Notices of the Royal Astronomical Society, 2019, 489, 2775-2791.	4.4	1
108	Sizes of the smallest particles at Saturn's ring edges. Icarus, 2021, 357, 114224.	2.5	1

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109	Probing regolith-covered surfaces in low gravity. EPJ Web of Conferences, 2021, 249, 02005.	0.3	1
110	Contact charging of lunar and Martian dust simulants. , 2002, 107, 15-1.		1
111	Advances in Science Planning Tools with the Science Opportunity Analyzer. , 2002, , .		0
112	Levitation and Transport of Charged Dust Over Surfaces in Space. AIP Conference Proceedings, 2002, , .	0.4	0
113	Ejecta Mass Production and Velocities in Low-Energy Impacts into Simulated Lunar Regolith. , 2012, , .		0
114	Cosmic Catastrophes in Movies. ACS Symposium Series, 2013, , 153-162.	0.5	0
115	Planetary Atmospheres Minor Species Sensor (PAMSS). Proceedings of SPIE, 2014, , .	0.8	0
116	Planetary atmospheres minor species sensor balloon flight test to near space. , 2015, , .		0
117	Granular Materials in Space Exploration. , 2016, , .		0
118	Granular Materials in Space Exploration. , 2016, , .		0
119	The Adhesive Response of Regolith to Low-Energy Disturbances in Microgravity. Gravitational and Space Research: Publication of the American Society for Gravitational and Space Research, 2021, 9, 1-12.	0.8	0