Joshua E Colwell

List of Publications by Year
in descending order

119 papers	4,872 citations	87888 38 h-index	106344 65 g-index
130 all docs	130 docs citations	130 times ranked	2572 citing authors

#	Article	IF	Citations
1	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
2	Sizes of the smallest particles at Saturn's ring edges. Icarus, 2021, 357, 114224.	2.5	1
3	Probing regolith-covered surfaces in low gravity. EPJ Web of Conferences, 2021, 249, 02005.	0.3	1
4	Stick-slip Dynamics in Penetration Experiments on Simulated Regolith. Planetary Science Journal, 2021, 2, 243.	3.6	4
5	Saturn's C ring and Cassini division: Particle sizes from Cassini UVIS, VIMS, and RSS occultations. Icarus, 2020, 344, 113565.	2.5	3
6	The composition and structure of Enceladus' plume from the complete set of Cassini UVIS occultation observations. Icarus, 2020, 344, 113461.	2.5	29
7	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
8	Close-range remote sensing of Saturnâ€™s rings during Cassiniâ€™s ring-grazing orbits and Grand Finale. Science, 2019, 364, .	12.6	17
9	Sharp Gap Edges in Dense Planetary Rings: An Axisymmetric Diffusion Model. Astrophysical Journal, 2019, 872, 153.	4.5	2
10	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
11	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
12	The Strata-1 experiment on small body regolith segregation. Acta Astronautica, 2018, 142, 87-94.	3.2	6
13	Particle sizes in Saturn's rings from UVIS stellar occultations 1. Variations with ring region. Icarus, 2018, 300, 150-166.	2.5	10
14	Regolith behavior under asteroid-level gravity conditions: low-velocity impact experiments. Progress in Earth and Planetary Science, 2018, 5, .	3.0	31
15	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
16	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
17	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
18	Noncircular features in Saturnâ€™s rings IV: Absolute radius scale and Saturnâ€™s pole direction. Icarus, 2017, 290, 14-45.	2.5	48

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19	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
20	Cassini's grand finale. Physics World, 2017, 30, 25-28.	0.0	1
21	Characterizing the particle size distribution of Saturnâ€™s A ring with Cassini UVIS occultation data. Icarus, 2016, 279, 20-35.	2.5	34
22	Noncircular features in Saturnâ€™s rings III: The Cassini Division. Icarus, 2016, 274, 131-162.	2.5	15
23	ON THE LINEAR DAMPING RELATION FOR DENSITY WAVES IN SATURNâ€™S RINGS. Astrophysical Journal, 2016, 824, 33.	4.5	4
24	Granular Materials in Space Exploration. , 2016, , .		0
25	Granular Materials in Space Exploration. , 2016, , .		0
26	Deciphering the embedded wave in Saturnâ€™s Maxwell ringlet. Icarus, 2016, 279, 62-77.	2.5	31
27	Small particles and self-gravity wakes in Saturn's rings from UVIS and VIMS stellar occultations. Icarus, 2016, 279, 36-50.	2.5	17
28	3D DEM simulations and experiments exploring low-velocity projectile impacts into a granular bed. Powder Technology, 2016, 288, 303-314.	4.2	24
29	SIGNATURES OF RECENT ASTEROID DISRUPTIONS IN THE FORMATION AND EVOLUTION OF SOLAR SYSTEM DUST BANDS. Astrophysical Journal, 2015, 811, 66.	4.5	8
30	Thermal transport in Saturnâ€™s B ring inferred from Cassini CIRS. Icarus, 2015, 254, 157-177.	2.5	5
31	Planetary atmospheres minor species sensor balloon flight test to near space. , 2015, , .		0
32	Planetary Atmospheres Minor Species Sensor (PAMSS). Proceedings of SPIE, 2014, , .	0.8	0
33	Noncircular features in Saturnâ€™s rings II: The C ring. Icarus, 2014, 241, 373-396.	2.5	29
34	Noncircular features in Saturnâ€™s rings I: The edge of the B ring. Icarus, 2014, 227, 152-175.	2.5	28
35	Saturnâ€™s F Ring core: Calm in the midst of chaos. Icarus, 2014, 232, 157-175.	2.5	13
36	Cosmic Catastrophes in Movies. ACS Symposium Series, 2013, , 153-162.	0.5	0

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37	Scattering properties of Saturnâ€™s rings in the far ultraviolet from Cassini UVIS spectra. Icarus, 2013, 225, 726-739.	2.5	11
38	METER-SIZED MOONLET POPULATION IN SATURN'S C RING AND CASSINI DIVISION. Astronomical Journal, 2013, 145, 171.	4.7	36
39	Ejecta Mass Production and Velocities in Low-Energy Impacts into Simulated Lunar Regolith. , 2012, , .		0
40	A predatorâ€"prey model for moon-triggered clumping in Saturnâ€™s rings. Icarus, 2012, 217, 103-114.	2.5	31
41	Saturnâ€™s F ring as seen by Cassini UVIS: Kinematics and statistics. Icarus, 2012, 217, 367-388.	2.5	21
42	The composition and structure of the Enceladus plume. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	136
43	Plasmonic enhancement of thin-film solar cells using gold-black coatings. , 2011, , .		1
44	Metal-black scattering centers to enhance light harvesting by thin-film solar cells. Proceedings of SPIE, 2011, , .	0.8	1
45	The auroral footprint of Enceladus on Saturn. Nature, 2011, 472, 331-333.	27.8	82
46	Waves in Cassini UVIS stellar occultations. Icarus, 2011, 216, 292-308.	2.5	47
47	Morphology and variability of the Titan ringlet and Huygens ringlet edges. Icarus, 2011, 216, 280-291.	2.5	20
48	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
49	Far ultraviolet spectral properties of Saturnâ€™s rings from Cassini UVIS. Icarus, 2010, 206, 458-466.	2.5	23
50	An Evolving View of Saturnâ€™s Dynamic Rings. Science, 2010, 327, 1470-1475.	12.6	127
51	CASSINI UVIS STELLAR OCCULTATION OBSERVATIONS OF SATURN's RINGS. Astronomical Journal, 2010, 140, 1569-1578.	4.7	46
52	Lunar Dust Levitation. Journal of Aerospace Engineering, 2009, 22, 2-9.	1.4	69
53	Density waves in Cassini UVIS stellar occultations. Icarus, 2009, 200, 574-580.	2.5	47
54	Kronos: exploring the depths of Saturn with probes and remote sensing through an international mission. Experimental Astronomy, 2009, 23, 947-976.	3.7	10

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55	The Structure of Saturn's Rings. , 2009, , 375-412.		62
56	Moonlets and clumps in Saturn's F ring. Icarus, 2008, 194, 278-289.	2.5	54
57	Hydrodynamical and radiative transfer modeling of meteoroid impacts into Saturn's rings. Icarus, 2008, 194, 623-635.	2.5	12
58	Ejecta from impacts at 0.2â€“2.3 m/s in low gravity. Icarus, 2008, 195, 908-917.	2.5	38
59	Electrostatic dust transport on Eros: 3-D simulations of pond formation. Icarus, 2008, 195, 630-648.	2.5	56
60	Water vapour jets inside the plume of gas leaving Enceladus. Nature, 2008, 456, 477-479.	27.8	115
61	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
62	Charge of Dust on Surfaces in Plasma. IEEE Transactions on Plasma Science, 2007, 35, 271-279.	1.3	41
63	Lunar surface: Dust dynamics and regolith mechanics. Reviews of Geophysics, 2007, 45, .	23.0	272
64	Titan airglow spectra from Cassini Ultraviolet Imaging Spectrograph (UVIS): EUV analysis. Geophysical Research Letters, 2007, 34, .	4.0	69
65	Self-gravity wakes and radial structure of Saturn's B ring. Icarus, 2007, 190, 127-144.	2.5	113
66	Self-gravity wakes in Saturn's A ring measured by stellar occultations from Cassini. Geophysical Research Letters, 2006, 33, .	4.0	99
67	Enceladus' Water Vapor Plume. Science, 2006, 311, 1422-1425.	12.6	473
68	Dust transport in photoelectron layers and the formation of dust ponds on Eros. Icarus, 2005, 175, 159-169.	2.5	115
69	Cassini UVIS observations of Jupiter's auroral variability. Icarus, 2005, 178, 312-326.	2.5	39
70	Ultraviolet Imaging Spectroscopy Shows an Active Saturnian System. Science, 2005, 307, 1251-1255.	12.6	125
71	Tenuous ring formation by the capture of interplanetary dust at Saturn. Journal of Geophysical Research, 2005, 110, .	3.3	7
72	The Cassini Ultraviolet Imaging Spectrograph Investigation. Space Science Reviews, 2004, 115, 299-361.	8.1	210

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73	Dust Capture by the Saturnian Magnetosphere. IEEE Transactions on Plasma Science, 2004, 32, 598-600.	1.3	2
74	The Cassini Ultraviolet Imaging Spectrograph Investigation. , 2004, , 299-361.		5
75	Low velocity impacts into dust: results from the COLLIDE-2 microgravity experiment. Icarus, 2003, 164, 188-196.	2.5	68
76	Dust grain charging and levitation in a weakly collisional sheath. Physics of Plasmas, 2003, 10, 3874-3880.	1.9	31
77	Effects of topography on thermal infrared spectra of planetary surfaces. Journal of Geophysical Research, 2002, 107, 16-1-16-6.	3.3	12
78	Experimental levitation of dust grains in a plasma sheath. Journal of Geophysical Research, 2002, 107, SMP 37-1.	3.3	73
79	Contact charging of lunar and Martian dust simulants. Journal of Geophysical Research, 2002, 107, 15-1-15-8.	3.3	88
80	Advances in Science Planning Tools with the Science Opportunity Analyzer. , 2002, , .		0
81	Levitation and Transport of Charged Dust Over Surfaces in Space. AIP Conference Proceedings, 2002, , .	0.4	0
82	Experimental Dust Levitation in a Plasma Sheath near a Surface. AIP Conference Proceedings, 2002, , .	0.4	1
83	Saturn's Rings: pre-Cassini Status and Mission Goals. Space Science Reviews, 2002, 104, 209-251.	8.1	29
84	Contact charging of lunar and Martian dust simulants. , 2002, 107, 15-1.		1
85	Experimental investigations on photoelectric and triboelectric charging of dust. Journal of Geophysical Research, 2001, 106, 8343-8356.	3.3	113
86	Aerodynamical sticking of dust aggregates. Physical Review E, 2001, 64, 046301.	2.1	36
87	A New Mechanism Relevant to the Formation of Planetesimals in the Solar Nebula. Icarus, 2001, 151, 318-321.	2.5	73
88	Photoelectric Charging of Dust Particles. , 2000, , 367-372.		2
89	Photoelectric Charging of Dust Particles in Vacuum. Physical Review Letters, 2000, 84, 6034-6037.	7.8	118
90	Fragmentation rates of small satellites in the outer solar system. Journal of Geophysical Research, 2000, 105, 17589-17599.	3.3	27

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91	Low-Velocity Microgravity Impact Experiments into Simulated Regolith. Icarus, 1999, 138, 241-248.	2.5	54
92	Dynamics of dust ejected from Enceladus: Application to the Cassini dust detector. Journal of Geophysical Research, 1999, 104, 24111-24120.	3.3	19
93	Mercury: Thermal Modeling and Mid-infrared (5â€"12 Î¼m) Observations. Icarus, 1998, 136, 104-123.	2.5	90
94	Cassini uvis observations of Saturns rings. Planetary and Space Science, 1998, 46, 1221-1235.	1.7	32
95	Jupiter's exogenic dust ring. Journal of Geophysical Research, 1998, 103, 20023-20030.	3.3	18
96	Capture of Interplanetary and Interstellar Dust by the Jovian Magnetosphere. Science, 1998, 280, 88-91.	12.6	46
97	Captured dust in planetary magnetospheres. , 1998, , .		2
98	Collisional Erosion in the Primordial Edgeworthâ€Kuiper Belt and the Generation of the 30â€"50 AU Kuiper Gap. Astrophysical Journal, 1997, 490, 879-882.	4.5	137
99	Comet Lightcurves: Effects of Active Regions and Topography. Icarus, 1997, 125, 406-415.	2.5	14
100	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
101	Magnetospheric effects on micrometeoroid fluxes. Journal of Geophysical Research, 1996, 101, 2169-2175.	3.3	20
102	<title>HYDICE system performance: an update</title>. , 1996, 2821, 76.		16
103	<title>In-flight radiometric stability of HYDICE for large and small uniform reflectance targets under various conditions</title>. , 1996, 2821, 300.		1
104	<title>Measurement of the HYDICE system MTF from flight imagery</title>. , 1996, , .		9
105	Size distributions of circumplanetary dust. Advances in Space Research, 1996, 17, 161-170.	2.6	34
106	The disruption of planetary satellites and the creation of planetary rings. Planetary and Space Science, 1994, 42, 1139-1149.	1.7	36
107	Size Distributions of Satellite Dust Ejecta: Effects of Radiation Pressure and Planetary Oblateness. Icarus, 1993, 105, 363-369.	2.5	15
108	A General Formulation for the Distribution of Impacts and Ejecta from Small Planetary Satellites. Icarus, 1993, 106, 536-548.	2.5	17

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109	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
110	Origins of the rings of Uranus and Neptune: 1. Statistics of satellite disruptions. Journal of Geophysical Research, 1992, 97, 10227-10241.	3.3	44
111	Voyager photopolarimeter observations of Uranian ring occultations. Icarus, 1990, 83, 102-125.	2.5	30
112	Evolution of topography on comets II. Icy craters and trenches. Icarus, 1990, 85, 205-215.	2.5	28
113	A numerical model of the Uranian dust rings. Icarus, 1990, 86, 530-560.	2.5	58
114	A model of dust production in the Neptune ring system. Geophysical Research Letters, 1990, 17, 1741-1744.	4.0	43
115	Observations of Neptunian rings by Voyager Photopolarmeter Experiment. Geophysical Research Letters, 1990, 17, 1745-1748.	4.0	6
116	Photometry from Voyager 2: Initial Results from the Neptunian Atmosphere, Satellites, and Rings. Science, 1989, 246, 1450-1454.	12.6	49
117	Creation of the Uranus rings and dust bands. Nature, 1989, 339, 605-607.	27.8	41
118	The evolution of topography on a comet. Icarus, 1987, 72, 128-134.	2.5	15
119	Science opportunity analyzer - a multi-mission approach to science planning. , 0, , .		1