Stephen R Schwartz

List of Publications by Year
in descending order

55 papers	2,078 citations	236925 25 h-index	233421 45 g-index
58 all docs	58 docs citations	58 times ranked	1298 citing authors

#	Article	IF	Citations
1	Properties of rubble-pile asteroid (101955) Bennu from OSIRIS-REx imaging and thermal analysis. Nature Astronomy, 2019, 3, 341-351.	10.1	188
2	Shape of (101955) Bennu indicative of a rubble pile with internal stiffness. Nature Geoscience, 2019, 12, 247-252.	12.9	179
3	Craters, boulders and regolith of (101955) Bennu indicative of an old and dynamic surface. Nature Geoscience, 2019, 12, 242-246.	12.9	161
4	An implementation of the soft-sphere discrete element method in a high-performance parallel gravity tree-code. Granular Matter, 2012, 14, 363-380.	2.2	132
5	European component of the AIDA mission to a binary asteroid: Characterization and interpretation of the impact of the DART mission. Advances in Space Research, 2018, 62, 2261-2272.	2.6	118
6	Collisional formation of top-shaped asteroids and implications for the origins of Ryugu and Bennu. Nature Communications, 2020, 11, 2655.	12.8	87
7	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. Science, 2022, 375, 1011-1016.	12.6	78
8	Creep stability of the proposed AIDA mission target 65803 Didymos: I. Discrete cohesionless granular physics model. Icarus, 2017, 294, 98-123.	2.5	74
9	Rotational Failure of Rubble-pile Bodies: Influences of Shear and Cohesive Strengths. Astrophysical Journal, 2018, 857, 15.	4.5	70
10	Numerical predictions of surface effects during the 2029 close approach of Asteroid 99942 Apophis. Icarus, 2014, 242, 82-96.	2.5	68
11	Bennuâ€™s near-Earth lifetime of 1.75 million years inferred from craters on its boulders. Nature, 2020, 587, 205-209.	27.8	62
12	In situ evidence of thermally induced rock breakdown widespread on Bennuâ€™s surface. Nature Communications, 2020, 11, 2913.	12.8	62
13	Catastrophic disruptions as the origin of bilobate comets. Nature Astronomy, 2018, 2, 379-382.	10.1	60
14	The Brazil nut effect and its application to asteroids. Monthly Notices of the Royal Astronomical Society, 2014, 443, 3368-3380.	4.4	44
15	Thermal Fatigue as a Driving Mechanism for Activity on Asteroid Bennu. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006325.	3.6	40
16	Ejecta cloud from the AIDA space project kinetic impact on the secondary of a binary asteroid: I. mechanical environment and dynamical model. Icarus, 2017, 282, 313-325.	2.5	37
17	Interpreting the Cratering Histories of Bennu, Ryugu, and Other Spacecraft-explored Asteroids. Astronomical Journal, 2020, 160, 14.	4.7	34
18	Numerical simulations of oscillation-driven regolith motion: Brazil-nut effect. Monthly Notices of the Royal Astronomical Society, 2017, 464, 2866-2881.	4.4	32

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19	Low-speed impact simulations into regolith in support of asteroid sampling mechanism design I: Comparison with 1-g experiments. Planetary and Space Science, 2014, 103, 174-183.	1.7	31
20	Small Solar System Bodies as granular media. Astronomy and Astrophysics Review, 2019, 27, 1.	25.5	31
21	Near-zero cohesion and loose packing of Bennuâ€™s near subsurface revealed by spacecraft contact. Science Advances, 2022, 8, .	10.3	31
22	The Western Bulge of 162173 Ryugu Formed as a Result of a Rotationally Driven Deformation Process. Astrophysical Journal Letters, 2019, 874, L10.	8.3	30
23	Meteoroid Impacts as a Source of Bennu's Particle Ejection Events. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006282.	3.6	30
24	The Dynamical Complexity of Surface Mass Shedding from a Top-shaped Asteroid Near the Critical Spin Limit. Astronomical Journal, 2018, 156, 59.	4.7	29
25	Numerically simulating impact disruptions of cohesive glass bead agglomerates using the soft-sphere discrete element method. Icarus, 2013, 226, 67-76.	2.5	28
26	Realistic On-the-fly Outcomes of Planetary Collisions: Machine Learning Applied to Simulations of Giant Impacts. Astrophysical Journal, 2019, 875, 40.	4.5	23
27	Predictions for the Dynamical States of the Didymos System before and after the Planned DART Impact. Planetary Science Journal, 2022, 3, 157.	3.6	23
28	Realistic On-the-fly Outcomes of Planetary Collisions. II. Bringing Machine Learning to N-body Simulations. Astrophysical Journal, 2020, 891, 6.	4.5	22
29	Assessing possible mutual orbit period change by shape deformation of Didymos after a kinetic impact in the NASA-led Double Asteroid Redirection Test. Advances in Space Research, 2019, 63, 2515-2534.	2.6	21
30	Modified granular impact force laws for the OSIRIS-REx touchdown on the surface of asteroid (101955) Bennu. Monthly Notices of the Royal Astronomical Society, 2021, 507, 5087-5105.	4.4	21
31	Asteroid Surface Geophysics. , 2015, , .		21
32	Crater population on asteroid (101955) Bennu indicates impact armouring and a young surface. Nature Geoscience, 2022, 15, 440-446.	12.9	20
33	ROTATION-DEPENDENT CATASTROPHIC DISRUPTION OF GRAVITATIONAL AGGREGATES. Astrophysical Journal, 2014, 789, 158.	4.5	16
34	Constraints on the perturbed mutual motion in Didymos due to impact-induced deformation of its primary after the DART impact. Monthly Notices of the Royal Astronomical Society, 2017, 472, 1641-1648.	4.4	16
35	Impact excitation of a seismic pulse and vibrational normal modes on asteroid Bennu and associated slumping of regolith. Icarus, 2019, 319, 312-333.	2.5	16
36	Validating N-body code chrono for granular DEM simulations in reduced-gravity environments. Monthly Notices of the Royal Astronomical Society, 2020, 498, 1062-1079.	4.4	13

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37	Ricochets on asteroids: Experimental study of low velocity grazing impacts into granular media. Icarus, 2020, 351, 113963.	2.5	12
38	The Effect of Inefficient Accretion on Planetary Differentiation. Planetary Science Journal, 2021, 2, 93.	3.6	11
39	Collision Chains among the Terrestrial Planets. II. An Asymmetry between Earth and Venus. Planetary Science Journal, 2021, 2, 199.	3.6	11
40	Alignment of fractures on Bennuâ€™s boulders indicative of rapid asteroid surface evolution. Nature Geoscience, 2022, 15, 453-457.	12.9	11
41	Small-body deflection techniques using spacecraft: Techniques in simulating the fate of ejecta. Advances in Space Research, 2016, 57, 1832-1846.	2.6	10
42	Numerical modeling of lander interaction with a low-gravity asteroid regolith surface. Astronomy and Astrophysics, 2021, 648, A56.	5.1	10
43	Collision Chains among the Terrestrial Planets. III. Formation of the Moon. Planetary Science Journal, 2021, 2, 200.	3.6	10
44	A cubesat centrifuge for long duration milligravity research. Npj Microgravity, 2017, 3, 16.	3.7	8
45	Boulder stranding in ejecta launched by an impact generated seismic pulse. Icarus, 2020, 337, 113424.	2.5	7
46	Numerical modelling of medium-speed impacts on a granular surface in a low-gravity environment application to Hayabusa2 sampling mechanism. Monthly Notices of the Royal Astronomical Society, 2020, 491, 153-177.	4.4	7
47	The NEOTï‰IST mission (Near-Earth Object Transfer of angular momentum spin test). Acta Astronautica, 2016, 127, 103-111.	3.2	5
48	Trajectory Design of Perseus: A CubeSat Mission Concept to Phobos. Aerospace, 2020, 7, 179.	2.2	4
49	Ricochets on asteroids II: Sensitivity of laboratory experiments of low velocity grazing impacts on substrate grain size. Icarus, 2022, 376, 114868.	2.5	4
50	Invariance of conveying capacity for drilling into lunar soil simulant. Advances in Space Research, 2019, 64, 1816-1824.	2.6	3
51	Robust Spin Control Design for the AOSAT+ Mission Concept. IEEE Journal on Miniaturization for Air and Space Systems, 2020, 1, 10-31.	2.7	3
52	Dealing with uncertainties in asteroid deflection demonstration missions: NEOTÏ‰IST. Proceedings of the International Astronomical Union, 2015, 10, 231-238.	0.0	2
53	Effects of orbital ellipticity on collisional disruptions of rubble-pile asteroids. Astrophysics and Space Science, 2015, 360, 1.	1.4	2
54	Small solar system bodies as granular systems. EPJ Web of Conferences, 2017, 140, 14011.	0.3	1

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55	An On-Orbit CubeSat Centrifuge for Asteroid Science and Exploration. , 2019, , .		1