Erik Asphaug

List of Publications by Year
in descending order

45 papers	3,865 citations	236925 25 h-index	243625 44 g-index
47 all docs	47 docs citations	47 times ranked	2777 citing authors

#	Article	IF	Citations
1	Origin of the Moon in a giant impact near the end of the Earth's formation. Nature, 2001, 412, 708-712.	27.8	858
2	Hit-and-run planetary collisions. Nature, 2006, 439, 155-160.	27.8	285
3	Size, Density, and Structure of Comet Shoemakerâ€“Levy 9 Inferred from the Physics of Tidal Breakup. Icarus, 1996, 121, 225-248.	2.5	257
4	Impact Simulations with Fracture. I. Method and Tests. Icarus, 1994, 107, 98-116.	2.5	240
5	Mega-impact formation of the Mars hemispheric dichotomy. Nature, 2008, 453, 1216-1219.	27.8	212
6	Properties of rubble-pile asteroid (101955) Bennu from OSIRIS-REx imaging and thermal analysis. Nature Astronomy, 2019, 3, 341-351.	10.1	188
7	Accretion Efficiency during Planetary Collisions. Astrophysical Journal, 2004, 613, L157-L160.	4.5	165
8	Craters, boulders and regolith of (101955) Bennu indicative of an old and dynamic surface. Nature Geoscience, 2019, 12, 242-246.	12.9	161
9	Chondrule formation during planetesimal accretion. Earth and Planetary Science Letters, 2011, 308, 369-379.	4.4	125
10	Mercury and other iron-rich planetary bodies as relics of inefficient accretion. Nature Geoscience, 2014, 7, 564-568.	12.9	119
11	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
12	Similar-sized collisions and the diversity of planets. Chemie Der Erde, 2010, 70, 199-219.	2.0	100
13	Impact Origin of the Moon?. Annual Review of Earth and Planetary Sciences, 2014, 42, 551-578.	11.0	92
14	Late origin of the Saturn system. Icarus, 2013, 223, 544-565.	2.5	86
15	The structure of the asteroid 4â€‰Vesta as revealed by models of planet-scale collisions. Nature, 2013, 494, 207-210.	27.8	85
16	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. Planetary Science Journal, 2022, 3, 160.	3.6	82
17	The shape and structure of cometary nuclei as a result of low-velocity accretion. Science, 2015, 348, 1355-1358.	12.6	76
18	The New Generation Planetary Population Synthesis (NGPPS). Astronomy and Astrophysics, 2021, 656, A69.	5.1	74

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19	Bennuâ€™s near-Earth lifetime of 1.75 million years inferred from craters on its boulders. Nature, 2020, 587, 205-209.	27.8	62
20	Observations, Meteorites, and Models: A Preflight Assessment of the Composition and Formation of (16) Psyche. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006296.	3.6	61
21	Geophysical consequences of planetary-scale impacts into a Mars-like planet. Icarus, 2011, 211, 960-985.	2.5	60
22	Fine-regolith production on asteroids controlled by rock porosity. Nature, 2021, 598, 49-52.	27.8	45
23	Tidal disruption of Phobos as the cause of surface fractures. Journal of Geophysical Research E: Planets, 2016, 121, 1054-1065.	3.6	31
24	Impact disruption of gravity-dominated bodies: New simulation data and scaling. Icarus, 2016, 275, 85-96.	2.5	29
25	Reconstructing the formation history of top-shaped asteroids from the surface boulder distribution. Nature Astronomy, 2021, 5, 134-138.	10.1	27
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	Realistic On-the-fly Outcomes of Planetary Collisions. II. Bringing Machine Learning to N-body Simulations. Astrophysical Journal, 2020, 891, 6.	4.5	22
28	Fate of the Runner in Hit-and-run Collisions. Astrophysical Journal, 2019, 875, 95.	4.5	19
29	Interiors of small bodies: foundations and perspectives. Planetary and Space Science, 2003, 51, 443-454.	1.7	17
30	3D radar wavefield tomography of comet interiors. Advances in Space Research, 2018, 61, 2198-2213.	2.6	16
31	Effect of Reimpacting Debris on the Solidification of the Lunar Magma Ocean. Journal of Geophysical Research E: Planets, 2018, 123, 1168-1191.	3.6	16
32	Gravity-dominated Collisions: A Model for the Largest Remnant Masses with Treatment for â€œHit and Runâ€•and Density Stratification. Astrophysical Journal, 2020, 892, 40.	4.5	16
33	Distinguishing the Origin of Asteroid (16) Psyche. Space Science Reviews, 2022, 218, 17.	8.1	13
34	Constraining the thermal properties of planetary surfaces using machine learning: Application to airless bodies. Icarus, 2019, 325, 16-30.	2.5	12
35	The Effect of Inefficient Accretion on Planetary Differentiation. Planetary Science Journal, 2021, 2, 93.	3.6	11
36	Collision Chains among the Terrestrial Planets. II. An Asymmetry between Earth and Venus. Planetary Science Journal, 2021, 2, 199.	3.6	11

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37	Collision Chains among the Terrestrial Planets. III. Formation of the Moon. Planetary Science Journal, 2021, 2, 200.	3.6	10
38	Graze-and-merge Collisions under External Perturbers. Astrophysical Journal, 2019, 881, 102.	4.5	10
39	Seismology on small planetary bodies by orbital laser Doppler vibrometry. Advances in Space Research, 2019, 64, 527-544.	2.6	8
40	Boulder stranding in ejecta launched by an impact generated seismic pulse. Icarus, 2020, 337, 113424.	2.5	7
41	Measuring the mechanical properties of small body regolith layers using a granular penetrometer. Astrodynamics, 2023, 7, 15-29.	2.4	5
42	Large planets may not form fractionally large moons. Nature Communications, 2022, 13, 568.	12.8	4
43	Interiors of small bodies and moons. Nature Communications, 2020, 11, 1564.	12.8	3
44	Combining machine-learned regression models with Bayesian inference to interpret remote sensing data. , 2022, , 193-207.		2
45	Possible particle ejection contributions to the shape and spin stability of small near-Earth asteroids. Icarus, 2022, , 115078.	2.5	0