# Philip T Metzger

List of Publications by Year
in descending order



| 52 | 852 | 567281 15 | 552781 26 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 55 | 55 | 55 | 521 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Evaluation of Different RANS Turbulence Models for Rocket Plume on Mars Environment. , 2022, , . | | 0 |
| 2 | Rocket Plume Interacting with Mars Soil Particulates. , 2022, , . | | 0 |
| 3 | Numerical estimations of lunar regolith trajectories and damage potential due to rocket plumes. Acta Astronautica, 2022, 195, 169-182. | 3.2 | 9 |
| 4 | Instant Landing Pads for Lunar Missions. , 2021, , . | | 6 |
| 5 | NASA Lunabotics Robotic Mining Competition 10th Anniversary (2010â€“2019): Taxonomy and Technology Review. , 2021, , . | | 2 |
| 6 | Deep Regolith Cratering and Plume Effects Modeling for Lunar Landing Sites. , 2021, , . | | 2 |
| 7 | Practical and Economic Rocket Mining of Lunar Ice. , 2021, , . | | 0 |
| 8 | The Damage to Lunar Orbiting Spacecraft Caused by the Ejecta of Lunar Landers. , 2021, , . | | 3 |
| 9 | Pad for Humanity: Lunar Spaceports as Critical Shared Infrastructure. , 2021, , . | | 1 |
| 10 | Off Earth Landing and Launch Pad Constructionâ€”A Critical Technology for Establishing a Long-Term Presence on Extraterrestrial Surfaces. , 2021, , . | | 7 |
| 11 | Phobos regolith simulants PGI-1 and PCA-1. Advances in Space Research, 2021, 67, 3308-3327. | 2.6 | 5 |
| 12 | Moons are planets: Scientific usefulness versus cultural teleology in the taxonomy of planetary science. Icarus, 2021, , 114768. | 2.5 | 3 |
| 13 | Thermal Extraction of Volatiles from Lunar and Asteroid Regolith in Axisymmetric Crankâ€“Nicolson Modeling. Journal of Aerospace Engineering, 2020, 33, . | 1.4 | 10 |
| 14 | Model for asteroid regolith to guide simulant development. Icarus, 2020, 350, 113904. | 2.5 | 3 |
| 15 | Thermal extraction of water ice from the lunar surface - A 3D numerical model. Planetary and Space Science, 2020, 193, 105082. | 1.7 | 18 |
| 16 | Simulated asteroid materials based on carbonaceous chondrite mineralogies. Meteoritics and Planetary Science, 2019, 54, 2067-2082. | 1.6 | 28 |
| 17 | Measuring the fidelity of asteroid regolith and cobble simulants. Icarus, 2019, 321, 632-646. | 2.5 | 19 |
| 18 | Commercial lunar propellant architecture: A collaborative study of lunar propellant production. Reach, 2019, 13, 100026. | 0.7 | 65 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | The reclassification of asteroids from planets to non-planets. Icarus, 2019, 319, 21-32. | 2.5 | 2 |
| 20 | A phenomenological relationship between vertical air motion and disdrometer derived A - b coefficients. Atmospheric Research, 2018, 208, 94-105. | 4.1 | 4 |
| 21 | Space development and space science together, an historic opportunity. Space Policy, 2016, 37, 77-91. | 1.5 | 29 |
| 22 | Rocket Exhaust Blowing Soil in Near Vacuum Conditions Is Faster than Predicted by Continuum Scaling Laws. , 2016, , . | | 4 |
| 23 | Design, Test, and Simulation of Lunar and Mars Landing Pad Soil Stabilization Built with In Situ Rock Utilization. , 2016, , . | | 5 |
| 24 | Analysis of Thermal/Water Propulsion for CubeSats that Refuel in Space. , 2016, , . | | 2 |
| 25 | Estimation of Apollo Lunar Dust Transport using Optical Extinction Measurements. Acta Geophysica, 2015, 63, 568-599. | 2.0 | 27 |
| 26 | In situ disdrometer calibration using multiple DSD moments. Acta Geophysica, 2014, 62, 1450-1477. | 2.0 | 4 |
| 27 | Affordable, Rapid Bootstrapping of the Space Industry and Solar System Civilization. Journal of Aerospace Engineering, 2013, 26, 18-29. | 1.4 | 42 |
| 28 | Special Issue on In Situ Resource Utilization. Journal of Aerospace Engineering, 2013, 26, 1-4. | 1.4 | 12 |
| 29 | Role of collisions in erosion of regolith during a lunar landing. Physical Review E, 2013, 87, 022205. | 2.1 | 25 |
| 30 | Further Analysis on the Mystery of the Surveyor III Dust Deposits. , 2012, , . | | 3 |
| 31 | Phenomenology of soil erosion due to rocket exhaust on the Moon and the Mauna Kea lunar test site. Journal of Geophysical Research, 2011, 116, . | 3.3 | 65 |
| 32 | Apollo 12 Lunar Module exhaust plume impingement on Lunar Surveyor III. Icarus, 2011, 211, 1089-1102. | 2.5 | 72 |
| 33 | Permeability of JSC-1A: A lunar soil simulant. Icarus, 2011, 212, 383-389. | 2.5 | 25 |
| 34 | Apollo video photogrammetry estimation of plume impingement effects. Icarus, 2011, 214, 46-52. | 2.5 | 47 |
| 35 | The Physical State of Lunar Soil in the Permanently Shadowed Craters of the Moon. , 2010, , . | | 5 |
| 36 | Soil Test Apparatus for Lunar Surfaces. , 2010, , . | | 19 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Rocket Cratering in Simulated Lunar and Martian Environments. , 2010, , . | | 0 |
| 38 | Photogrammetry and ballistic analysis of a high-flying projectile in the STS-124 space shuttle launch. Acta Astronautica, 2010, 67, 217-229. | 3.2 | 3 |
| 39 | Cratering and Blowing Soil by Rocket Engines during Lunar Landings. Advances in Engineering, 2010, , 551-576. | 0.1 | 14 |
| 40 | Jet-Induced Cratering of a Granular Surface with Application to Lunar Spaceports. Journal of Aerospace Engineering, 2009, 22, 24-32. | 1.4 | 72 |
| 41 | Hyperstaticity and loops in frictional granular packings. , 2009, , . | | 3 |
| 42 | Craters Formed in Granular Beds by Impinging Jets of Gas. , 2009, , . | | 26 |
| 43 | ISRU Implications for Lunar and Martian Plume Effects. , 2009, , . | | 32 |
| 44 | Spatial and Temporal Extrapolation of Disdrometer Size Distributions Based on a Lagrangian Trajectory Model of Falling Rain. The Open Atmospheric Science Journal, 2009, 3, 172-186. | 0.5 | 2 |
| 45 | Htheorem for contact forces in granular materials. Physical Review E, 2008, 77, 011307. | 2.1 | 12 |
| 46 | Modification of Roberts' Theory for Rocket Exhaust Plumes Eroding Lunar Soil. , 2008, , . | | 12 |
| 47 | Lagrangian Trajectory Modeling of Lunar Dust Particles. , 2008, , . | | 18 |
| 48 | Apollo Video Photogrammetry Estimation of Plume Impingement Effects. , 2008, , . | | 10 |
| 49 | Elegance of Disordered Granular Packings: A Validation of Edwardâ€™s Hypothesis. Physical Review Letters, 2005, 94, 148001. | 7.8 | 22 |
| 50 | Force Density Function Relationships in 2-D Granular Media. SIAM Journal on Applied Mathematics, 2005, 65, 1855-1869. | 1.8 | 3 |
| 51 | Granular contact force density of states and entropy in a modified Edwards ensemble. Physical Review E, 2004, 70, 051303. | 2.1 | 40 |
| 52 | Comment on â€œMechanical analog of temperature for the description of force distribution in static granular packingsâ€• Physical Review E, 2004, 69, 053301; discussion 053302. | 2.1 | 8 |