Thomas Stephan

List of Publications by Year
in descending order

90 papers	5,285 citations	147801 31 h-index	82547 72 g-index
92 all docs	92 docs citations	92 times ranked	3683 citing authors

#	Article	IF	Citations
1	Comet 81P/Wild 2 Under a Microscope. Science, 2006, 314, 1711-1716.	12.6	848
2	Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. Science, 2006, 314, 1735-1739.	12.6	589
3	Organics Captured from Comet 81P/Wild 2 by the Stardust Spacecraft. Science, 2006, 314, 1720-1724.	12.6	519
4	Impact Features on Stardust: Implications for Comet 81P/Wild 2 Dust. Science, 2006, 314, 1716-1719.	12.6	286
5	Elemental Compositions of Comet 81P/Wild 2 Samples Collected by Stardust. Science, 2006, 314, 1731-1735.	12.6	200
6	Aqueous corrosion of borosilicate glass under acidic conditions: A new corrosion mechanism. Journal of Non-Crystalline Solids, 2010, 356, 1458-1465.	3.1	190
7	TOF-SIMS in cosmochemistry. Planetary and Space Science, 2001, 49, 859-906.	1.7	157
8	Evidence for interstellar origin of seven dust particles collected by the Stardust spacecraft. Science, 2014, 345, 786-791.	12.6	152
9	Cosima â€“ High Resolution Time-of-Flight Secondary Ion Mass Spectrometer for the Analysis of Cometary Dust Particles onboard Rosetta. Space Science Reviews, 2007, 128, 823-867.	8.1	139
10	Comparing Wild 2 particles to chondrites and IDPs. Meteoritics and Planetary Science, 2008, 43, 261-272.	1.6	136
11	High-molecular-weight organic matter in the particles of comet 67P/Churyumovâ€“Gerasimenko. Nature, 2016, 538, 72-74.	27.8	124
12	An experimental study of the replacement of leucite by analcime. American Mineralogist, 2007, 92, 19-26.	1.9	104
13	Brecciation and chemical heterogeneities of CI chondrites. Geochimica Et Cosmochimica Acta, 2006, 70, 5371-5394.	3.9	92
14	Correction of dead time effects in timeâ€ofâ€flight mass spectrometry. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1994, 12, 405-410.	2.1	87
15	COMET 67P/CHURYUMOVâ€“GERASIMENKO: CLOSE-UP ON DUST PARTICLE FRAGMENTS. Astrophysical Journal Letters, 2016, 816, L32.	8.3	84
16	Cometary dust in Antarctic ice and snow: Past and present chondritic porous micrometeorites preserved on the Earth's surface. Earth and Planetary Science Letters, 2015, 410, 1-11.	4.4	77
17	CHILI â€“ the Chicago Instrument for Laser Ionization â€“ a new tool for isotope measurements in cosmochemistry. International Journal of Mass Spectrometry, 2016, 407, 1-15.	1.5	68
18	Properties of Interplanetary Dust: Information from Collected Samples. Astronomy and Astrophysics Library, 2001, , 253-294.	0.1	67

#	ARTICLE	IF	CITATIONS
19	Atomâ€probe analyses of nanodiamonds from Allende. Meteoritics and Planetary Science, 2014, 49, 453-467.	1.6	62
20	Dust from comet Wild 2: Interpreting particle size, shape, structure, and composition from impact features on the Stardust aluminum foils. Meteoritics and Planetary Science, 2008, 43, 41-73.	1.6	60
21	Assessment and control of organic and other contaminants associated with the Stardust sample return from comet 81P/Wild 2. Meteoritics and Planetary Science, 2010, 45, 406-433.	1.6	55
22	TOFâ€SIMS analysis of polycyclic aromatic hydrocarbons in Allan Hills 84001. Meteoritics and Planetary Science, 2003, 38, 109-116.	1.6	54
23	Stardust in Stardustâ€"The C, N, and O isotopic compositions of Wild 2 cometary matter in Al foil impacts. Meteoritics and Planetary Science, 2008, 43, 299-313.	1.6	54
24	Mechanism of hydrothermal alteration of natural self-irradiated and synthetic crystalline titanate-based pyrochlore. Geochimica Et Cosmochimica Acta, 2007, 71, 3311-3322.	3.9	48
25	Resonance ionization mass spectrometry for precise measurements of isotope ratios. International Journal of Mass Spectrometry, 2009, 288, 36-43.	1.5	47
26	Experimental observation of an interface-controlled pseudomorphic replacement reaction in a natural crystalline pyrochlore. American Mineralogist, 2005, 90, 1683-1687.	1.9	45
27	TOFâ€SIMS analysis of cometary matter in Stardust aerogel tracks. Meteoritics and Planetary Science, 2008, 43, 233-246.	1.6	42
28	New Constraints on the Abundance of ⁶⁰Fe in the Early Solar System. Astrophysical Journal Letters, 2018, 857, L15.	8.3	40
29	Discriminating contamination from particle components in spectra of Cassini's dust detector CDA. Planetary and Space Science, 2009, 57, 1359-1374.	1.7	35
30	Potassic, high-silica Hadean crust. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6353-6356.	7.1	33
31	40Arî—,39Ar dating of pseudotachylite from the Vredefort dome, South Africa: a progress report. Tectonophysics, 1990, 171, 139-152.	2.2	31
32	Strontium and barium isotopes in presolar silicon carbide grains measured with CHILIâ€"two types of X grains. Geochimica Et Cosmochimica Acta, 2018, 221, 109-126.	3.9	31
33	Final reports of the Stardust Interstellar Preliminary Examination. Meteoritics and Planetary Science, 2014, 49, 1720-1733.	1.6	29
34	Simultaneous iron and nickel isotopic analyses of presolar silicon carbide grains. Geochimica Et Cosmochimica Acta, 2018, 221, 87-108.	3.9	27
35	Molybdenum Isotopes in Presolar Silicon Carbide Grains: Details of s-process Nucleosynthesis in Parent Stars and Implications for r- and p-processes. Astrophysical Journal, 2019, 877, 101.	4.5	27
36	TOFâ€SIMS analysis of cometary particles extracted from Stardust aerogel. Meteoritics and Planetary Science, 2008, 43, 285-298.	1.6	25

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37	J-type Carbon Stars: A Dominant Source of ¹⁴N-rich Presolar SiC Grains of Type AB. Astrophysical Journal Letters, 2017, 844, L12.	8.3	25
38	Stardust Interstellar Preliminary Examination X: Impact speeds and directions of interstellar grains on the Stardust dust collector. Meteoritics and Planetary Science, 2014, 49, 1680-1697.	1.6	24
39	TOF-SIMS analysis of interplanetary dust. Earth and Planetary Science Letters, 1994, 128, 453-467.	4.4	23
40	Presolar Silicon Carbide Grains of Types Y and Z: Their Molybdenum Isotopic Compositions and Stellar Origins. Astrophysical Journal, 2019, 881, 28.	4.5	23
41	Isotope systematics and shock-wave metamorphism: III. K-Ar in experimentally and naturally shocked rocks; the Haughton impact structure, Canada. Geochimica Et Cosmochimica Acta, 1992, 56, 1591-1605.	3.9	21
42	TOFâ€SIMS analysis of crater residues from Wild 2 cometary particles on Stardust aluminum foil. Meteoritics and Planetary Science, 2008, 43, 161-185.	1.6	20
43	Surface analysis of stratospheric dust particles. Meteoritics and Planetary Science, 1999, 34, 637-646.	1.6	19
44	Stardust Interstellar Preliminary Examination <scp>IX</scp>: Highâ€speed interstellar dust analog capture in Stardust flightâ€spare aerogel. Meteoritics and Planetary Science, 2014, 49, 1666-1679.	1.6	19
45	Stardust Interstellar Preliminary Examination <scp>II</scp>: Curating the interstellar dust collector, picokeystones, and sources of impact tracks. Meteoritics and Planetary Science, 2014, 49, 1522-1547.	1.6	18
46	Stardust Interstellar Preliminary Examination <scp>IV</scp>: Scanning transmission Xâ€ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1562-1593.	1.6	18
47	Cluster Analysis of Presolar Silicon Carbide Grains: Evaluation of Their Classification and Astrophysical Implications. Astrophysical Journal Letters, 2021, 907, L39.	8.3	18
48	Correction of dead time effects in laser-induced desorption time-of-flight mass spectrometry: Applications in atom probe tomography. International Journal of Mass Spectrometry, 2015, 379, 46-51.	1.5	17
49	Stardust Interstellar Preliminary Examination <scp>XI</scp>: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1698-1719.	1.6	16
50	Stardust Interstellar Preliminary Examination I: Identification of tracks in aerogel. Meteoritics and Planetary Science, 2014, 49, 1509-1521.	1.6	16
51	The future of Stardust science. Meteoritics and Planetary Science, 2017, 52, 1859-1898.	1.6	16
52	Search for meteoritic GEMS I: Comparison of amorphous silicates in Paris and Acfer 094 chondrite matrices and in anhydrous chondritic interplanetary dust particles. Geochimica Et Cosmochimica Acta, 2021, 310, 320-345.	3.9	16
53	COSIMA-Rosetta calibration for in situ characterization of 67P/Churyumovâ€“Gerasimenko cometary inorganic compounds. Planetary and Space Science, 2015, 117, 35-44.	1.7	15
54	Common Occurrence of Explosive Hydrogen Burning in Type II Supernovae. Astrophysical Journal, 2018, 855, 144.	4.5	15

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55	SIMS studies of Allende projectiles fired into Stardustâ€type aluminum foils at 6 km/sec. Meteoritics and Planetary Science, 2006, 41, 197-209.	1.6	14
56	A combined ToFâ€SIMS and EMP/SEM study of a threeâ€phase symplectite in the Los Angeles basaltic shergottite. Meteoritics and Planetary Science, 2009, 44, 1225-1237.	1.6	14
57	Carbonaceous xenoliths in the Krymka LL3.1 chondrite: Mysteries and established facts. Geochimica Et Cosmochimica Acta, 2005, 69, 2165-2182.	3.9	13
58	Sample return of interstellar matter (SARIM). Experimental Astronomy, 2009, 23, 303-328.	3.7	13
59	Combining Atom-Probe Tomography and Focused-Ion Beam Microscopy to Study Individual Presolar Meteoritic Nanodiamond Particles. Microscopy and Microanalysis, 2013, 19, 974-975.	0.4	13
60	Stardust Interstellar Preliminary Examination <scp>VII</scp>: Synchrotron Xâ€ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2â€<scp>ID</scp>â€D microprobe. Meteoritics and Planetary Science, 2014, 49, 1626-1644.	1.6	13
61	Search for meteoritic GEMS II: Comparison of inclusions in amorphous silicates from the Paris chondrite and from anhydrous chondritic interplanetary dust particles. Geochimica Et Cosmochimica Acta, 2021, 310, 346-362.	3.9	13
62	Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates. Meteoritics and Planetary Science, 2014, 49, 1645-1665.	1.6	12
63	Stardust Interstellar Preliminary Examination <scp>VI</scp>: Quantitative elemental analysis by synchrotron Xâ€ray fluorescence nanoimaging of eight impact features in aerogel. Meteoritics and Planetary Science, 2014, 49, 1612-1625.	1.6	12
64	Stardust Interstellar Preliminary Examination V: <scp>XRF</scp> analyses of interstellar dust candidates at <scp>ESRF ID</scp>13. Meteoritics and Planetary Science, 2014, 49, 1594-1611.	1.6	12
65	Stardust Interstellar Preliminary Examination <scp>III</scp>: Infrared spectroscopic analysis of interstellar dust candidates. Meteoritics and Planetary Science, 2014, 49, 1548-1561.	1.6	12
66	TOF-SIMS analysis of Allende projectiles shot into silica aerogel. Meteoritics and Planetary Science, 2006, 41, 211-216.	1.6	11
67	3â€D elemental and isotopic composition of presolar silicon carbides. Meteoritics and Planetary Science, 2007, 42, 1121-1134.	1.6	11
68	Assessing the elemental composition of comet 81P/Wild 2 by analyzing dust collected by Stardust. Space Science Reviews, 2008, 138, 247-258.	8.1	11
69	Atomâ€probe tomography and transmission electron microscopy of the kamaciteâ€"taenite interface in the fastâ€cooled Bristol IVA iron meteorite. Meteoritics and Planetary Science, 2017, 52, 2707-2729.	1.6	11
70	Iron and nickel isotope compositions of presolar silicon carbide grains from supernovae. Geochimica Et Cosmochimica Acta, 2018, 221, 127-144.	3.9	11
71	Coordinated Microanalyses of Seven Particles of Probable Interstellar Origin from the Stardust Mission.. Microscopy and Microanalysis, 2014, 20, 1692-1693.	0.4	9
72	Molybdenum Isotope Dichotomy in Meteorites Caused by s-Process Variability. Astrophysical Journal, 2021, 909, 8.	4.5	9

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73	40Ar-39Ar Ages of Types 3 and 4, L and H Chondrites from Antarctica. Meteoritics, 1988, 23, 373-377.	1.4	8
74	⁴⁰Arâ€‹³⁹Ar dating of the H3 chondrite Sainte Rose. Meteoritics, 1992, 27, 580-584.	1.4	8
75	Non-destructive search for interstellar dust using synchrotron microprobes. , 2010, , .		8
76	Krieselite, Al2GeO4(F,OH)2: A new mineral from the Tsumeb mine, Namibia, representing the Ge analogue of topaz. Neues Jahrbuch Fur Mineralogie, Abhandlungen, 2010, 187, 33-40.	0.3	7
77	Isotopes of Barium as a Chronometer for Supernova Dust Formation. Astrophysical Journal, 2019, 885, 128.	4.5	7
78	On the provenance of GEMS, a quarter century post discovery. Geochimica Et Cosmochimica Acta, 2022, 335, 323-338.	3.9	7
79	Mineral-specific trace element contents of interplanetary dust particles. Nuclear Instruments & Methods in Physics Research B, 2001, 181, 539-544.	1.4	3
80	TEM studies and the shock history of a â€œmysteriteâ€•inclusion from the Krymka LL chondrite. Meteoritics and Planetary Science, 2006, 41, 571-580.	1.6	3
81	Improvements in RIMS Isotopic Precision: Application to in situ atom-limited analyses. , 2009, , .		3
82	SARIM PLUSâ€”sample return of comet 67P/CG and of interstellar matter. Experimental Astronomy, 2012, 33, 723-751.	3.7	3
83	Correlative Transmission Electron Microscopy and Atom-Probe Tomography of an Iron Meteorite. Microscopy and Microanalysis, 2015, 21, 1313-1314.	0.4	3
84	Assessing the elemental composition of comet 81P/Wild 2 by analyzing dust collected by Stardust. Space Sciences Series of ISSI, 2008, , 247-258.	0.0	3
85	Ion Microscopy with Resonant Ionization Mass Spectrometry: Time-of-Flight Depth Profiling with Improved Isotopic Precision. European Journal of Mass Spectrometry, 2010, 16, 373-377.	1.0	2
86	Samples of the Solar System: Recent Developments. , 2014, , .		2
87	Atom-Probe Tomography of Meteoritic Nanodiamonds.. Microscopy and Microanalysis, 2014, 20, 1676-1677.	0.4	1
88	CHILI, a Nanobeam Secondary Neutral Mass Spectrometer with Extraordinary Spatial Resolution, Sensitivity, and Selectivity: First Results. Microscopy and Microanalysis, 2015, 21, 1143-1144.	0.4	0
89	Elmar K. Jessberger (1943â€“2017). Meteoritics and Planetary Science, 2018, 53, 1537-1540.	1.6	0
90	COSIMA: High Resolution Time-of-Flight Secondary Ion Mass Spectrometer for the Analysis of Cometary Dust Particles Onboard ROSETTA. , 2009, , 1-42.		0