Patrick N Peplowski

List of Publications by Year
in descending order

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86	2,932	186265	175258
papers	citations	28 h-index	52 g-index

89	89	89	2078
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Thermal neutron activation of a CeBr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e719" altimg="si6.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:math> gamma-ray sensor. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1029, 166396.	1.6	1
2	Deciphering Redox State for a Metal-Rich World. Space Science Reviews, 2022, 218, 6.	8.1	4
3	Science Goals and Mission Concept for a Landed Investigation of Mercury. Planetary Science Journal, 2022, 3, 68.	3.6	2
4	Distinguishing the Origin of Asteroid (16) Psyche. Space Science Reviews, 2022, 218, 17.	8.1	13
5	Current nuclear data needs for applications. Physical Review Research, 2022, 4, .	3.6	28
6	Global Hydrogen Abundances on the Lunar Surface. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	5
7	Cross sections for the production of radionuclides via natCu(p,X) spallation reactions for proton energies from 250 MeV to 2 GeV. Nuclear Physics A, 2021, 1006, 122067.	1.5	5
8	Space-based measurements of neutron lifetime: Approaches to resolving the neutron lifetime anomaly. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 988, 164919.	1.6	6
9	Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. Planetary Science Journal, 2021, 2, 130.	3.6	80
10	Measurement of the free neutron lifetime using the neutron spectrometer on NASA's Lunar Prospector mission. Physical Review C, 2021, 104, .	2.9	8
11	Science operation plan of Phobos and Deimos from the MMX spacecraft. Earth, Planets and Space, 2021, 73, .	2.5	22
12	MEGANE investigations of Phobos and the Small Body Mapping Tool. Earth, Planets and Space, 2021, 73, 217.	2.5	4
13	GeMini: A High-Resolution, Low-Resource, Gamma-Ray Spectrometer for Planetary Science Applications. Space Science Reviews, 2020, 216, 1.	8.1	6
14	Position-dependent neutron detection efficiency loss in 3He gas proportional counters. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 982, 164574.	1.6	6
15	Chemically distinct regions of Venusâ€™s atmosphere revealed by measured N2 concentrations. Nature Astronomy, 2020, 4, 947-950.	10.1	14
16	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
17	Space-based measurement of the neutron lifetime using data from the neutron spectrometer on NASA's MESSENGER mission. Physical Review Research, 2020, 2, .	3.6	17
18	Analytical Identification and Characterization of the Major Geochemical Terranes of Mercury's Northern Hemisphere. Journal of Geophysical Research E: Planets, 2019, 124, 2414-2429.	3.6	15

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19	Radiation damage and annealing of three coaxial n-type germanium detectors: Preparation for spaceflight missions to asteroid 16 Psyche and Marsâ€™ moon Phobos. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 942, 162409.	1.6	8
20	Cosmogenic radionuclide production modeling with Geant4: Experimental benchmarking and application to nuclear spectroscopy of asteroid (16) Psyche. Nuclear Instruments & Methods in Physics Research B, 2019, 446, 43-57.	1.4	9
21	MESSENGER Gamma Ray Spectrometer and Epithermal Neutron Hydrogen Data Reveal Compositional Differences Between Mercury's Hot and Cold Poles. Journal of Geophysical Research E: Planets, 2019, 124, 721-733.	3.6	4
22	Measuring the Elemental Composition of Phobos: The Marsâ€moon Exploration with GAmma rays and NEutrons (MEGANE) Investigation for the Martian Moons eXploration (MMX) Mission. Earth and Space Science, 2019, 6, 2605-2623.	2.6	26
23	Characterizing near-surface elemental layering on Mars using gamma-ray spectroscopy: A proof-of-principle experiment. Nuclear Instruments & Methods in Physics Research B, 2018, 415, 89-99.	1.4	3
24	Global Distribution and Spectral Properties of Lowâ€Reflectance Material on Mercury. Geophysical Research Letters, 2018, 45, 2945-2953.	4.0	41
25	The Chemical Composition of Mercury. , 2018, , 30-51.		43
26	The Geochemical and Mineralogical Diversity of Mercury. , 2018, , 176-190.		21
27	Statistical Study of Mercury's Energetic Electron Events as Observed by the Gammaâ€Ray and Neutron Spectrometer Instrument Onboard MESSENGER. Journal of Geophysical Research: Space Physics, 2018, 123, 4961-4978.	2.4	4
28	Compositional variability on the surface of 1 Ceres revealed through GRaND measurements of highâ€energy gamma rays. Meteoritics and Planetary Science, 2018, 53, 1805-1819.	1.6	9
29	Image Reconstruction Techniques in Neutron and Gamma Ray Spectroscopy: Improving Lunar Prospector Data. Journal of Geophysical Research E: Planets, 2018, 123, 1804-1822.	3.6	9
30	Near-space operation of compact CsI, CLYC, and CeBr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll" id="d1e513" altimg="si1.gif"><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:math>sensors: Results from two high-altitude balloon flights. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 905, 33-46.	1.6	10
31	Igneous lithologies on asteroid (4) Vesta mapped using gamma-ray and neutron data. Icarus, 2017, 286, 35-45.	2.5	11
32	The MESSENGER Gamma-Ray Spectrometer: Calibration and operations. Icarus, 2017, 288, 186-200.	2.5	12
33	Geochemistry, mineralogy, and petrology of boninitic and komatiitic rocks on the mercurian surface: Insights into the mercurian mantle. Icarus, 2017, 285, 155-168.	2.5	79
34	A Low O/Si Ratio on the Surface of Mercury: Evidence for Silicon Smelting?. Journal of Geophysical Research E: Planets, 2017, 122, 2053-2076.	3.6	36
35	Compositional terranes on Mercury: Information from fast neutrons. Icarus, 2017, 281, 32-45.	2.5	30
36	Pulsed neutron generator â€” gamma ray spectrometer measurements of venus elemental composition. , 2016, , .		0

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37	Intense energetic electron flux enhancements in Mercury's magnetosphere: An integrated view with highâ€resolution observations from MESSENGER. Journal of Geophysical Research: Space Physics, 2016, 121, 2171-2184.	2.4	31
38	Geochemistry of the lunar highlands as revealed by measurements of thermal neutrons. Journal of Geophysical Research E: Planets, 2016, 121, 388-401.	3.6	15
39	Evidence from MESSENGER for sulfurâ€and carbonâ€driven explosive volcanism on Mercury. Geophysical Research Letters, 2016, 43, 3653-3661.	4.0	57
40	The global elemental composition of 433 Eros: First results from the NEAR gamma-ray spectrometer orbital dataset. Planetary and Space Science, 2016, 134, 36-51.	1.7	15
41	Galactic cosmic ray variations in the inner heliosphere from solar distances less than 0.5â€‰AU: Measurements from the MESSENGER Neutron Spectrometer. Journal of Geophysical Research: Space Physics, 2016, 121, 7398-7406.	2.4	21
42	Ex luna, scientia: lunar occultation as a paradigm for nuclear astrophysics. , 2016, , .		0
43	Remote sensing evidence for an ancient carbon-bearing crust on Mercury. Nature Geoscience, 2016, 9, 273-276.	12.9	134
44	The 4 June 2011 neutron event at Mercury: A defense of the solar origin hypothesis. Journal of Geophysical Research: Space Physics, 2015, 120, 5284-5289.	2.4	4
45	Longâ€duration neutron production by nonflaring transients in the solar corona. Journal of Geophysical Research: Space Physics, 2015, 120, 8247-8266.	2.4	2
46	Using <scp>HED</scp> meteorites to interpret neutron and gammaâ€ray data from asteroidÂ4 Vesta. Meteoritics and Planetary Science, 2015, 50, 1311-1337.	1.6	24
47	Comprehensive survey of energetic electron events in Mercury's magnetosphere with data from the MESSENGER Gammaâ€Ray and Neutron Spectrometer. Journal of Geophysical Research: Space Physics, 2015, 120, 2851-2876.	2.4	36
48	Neutrons and energetic charged particles in the inner heliosphere: Measurements of the MESSENGER Neutron Spectrometer from 0.3 to 0.85â€‰AU. Journal of Geophysical Research: Space Physics, 2015, 120, 841-854.	2.4	6
49	Bulk hydrogen abundances in the lunar highlands: Measurements from orbital neutron data. Icarus, 2015, 255, 127-134.	2.5	21
50	High-resolution mapping of lunar polar hydrogen with a low-resource orbital mission. Acta Astronautica, 2015, 115, 452-462.	3.2	9
51	Geochemical terranes of Mercuryâ€™s northern hemisphere as revealed by MESSENGER neutron measurements. Icarus, 2015, 253, 346-363.	2.5	74
52	Constraints on the abundance of carbon in near-surface materials on Mercury: Results from the MESSENGER Gamma-Ray Spectrometer. Planetary and Space Science, 2015, 108, 98-107.	1.7	57
53	Evidence for geochemical terranes on Mercury: Global mapping of major elements with MESSENGER's X-Ray Spectrometer. Earth and Planetary Science Letters, 2015, 416, 109-120.	4.4	167
54	Chlorine on the surface of Mercury: MESSENGER gamma-ray measurements and implications for the planetâ€™s formation and evolution. Icarus, 2015, 257, 417-427.	2.5	66

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55	Hydrogen and major element concentrations on 433 Eros: Evidence for an Lâ€•or <scp>LL</scp>â€chondriteâ€like surface composition. Meteoritics and Planetary Science, 2015, 50, 353-367.	1.6	30
56	Enhanced sodium abundance in Mercuryâ€™s north polar region revealed by the MESSENGER Gamma-Ray Spectrometer. Icarus, 2014, 228, 86-95.	2.5	85
57	RadFET Dosimeters in the Belt: the Van Allen Probes on Day 365. IEEE Transactions on Nuclear Science, 2014, 61, 948-954.	2.0	12
58	Mercuryâ€™s Weather-Beaten Surface: Understanding Mercury in the Context of Lunar and Asteroidal Space Weathering Studies. Space Science Reviews, 2014, 181, 121-214.	8.1	108
59	Detection and characterization of 0.5â€“8â€‰MeV neutrons near Mercury: Evidence for a solar origin. Journal of Geophysical Research: Space Physics, 2014, 119, 5150-5171.	2.4	12
60	The Engineering Radiation Monitor for the Radiation Belt Storm Probes Mission. Space Science Reviews, 2013, 179, 485-502.	8.1	22
61	Early Results From the Engineering Radiation Monitor (ERM) and Solar Cell Monitor on the Van Allen Probes Mission. IEEE Transactions on Nuclear Science, 2013, 60, 4053-4058.	2.0	12
62	Evidence for Water Ice Near Mercuryâ€™s North Pole from MESSENGER Neutron Spectrometer Measurements. Science, 2013, 339, 292-296.	12.6	173
63	Olivine or impact melt: Nature of the â€œOrangeâ€•material on Vesta from Dawn. Icarus, 2013, 226, 1568-1594.	2.5	47
64	Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>8</mml:mn></mml:msup></mml:math>B from elastic and inelastic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>7</mml:mn></mml:msup></mml:math>Be+<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>	2.9	14
65	New insights into the global composition of the lunar surface from highâ€energy gamma rays measured by Lunar Prospector. Journal of Geophysical Research E: Planets, 2013, 118, 671-688.	3.6	11
66	Distribution of iron on Vesta. Meteoritics and Planetary Science, 2013, 48, 2237-2251.	1.6	35
67	Constraints on Vesta's elemental composition: Fast neutron measurements by Dawn's gamma ray and neutron detector. Meteoritics and Planetary Science, 2013, 48, 2271-2288.	1.6	28
68	RADFET dosimeters in the belt: The Van Allen Probes on day 365. , 2013, , .		4
69	Compositional variability on the surface of 4 Vesta revealed through <scp>GR</scp>a<scp>ND</scp> measurements of highâ€energy gamma rays. Meteoritics and Planetary Science, 2013, 48, 2252-2270.	1.6	53
70	Neutron absorption constraints on the composition of 4 Vesta. Meteoritics and Planetary Science, 2013, 48, 2211-2236.	1.6	47
71	The distribution and origin of smooth plains on Mercury. Journal of Geophysical Research E: Planets, 2013, 118, 891-907.	3.6	193
72	Variations in the abundances of potassium and thorium on the surface of Mercury: Results from the MESSENGER Gammaâ€Ray Spectrometer. Journal of Geophysical Research, 2012, 117, .	3.3	85

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73	Majorâ€element abundances on the surface of Mercury: Results from the MESSENGER Gammaâ€Ray Spectrometer. Journal of Geophysical Research, 2012, 117, .	3.3	146
74	Aluminum abundance on the surface of Mercury: Application of a new backgroundâ€reduction technique for the analysis of gammaâ€ray spectroscopy data. Journal of Geophysical Research, 2012, 117, .	3.3	23
75	Operation of a 3He proportional counter in the Ganymede radiation environment. Planetary and Space Science, 2012, 61, 46-52.	1.7	2
76	The Engineering Radiation Monitor for the Radiation Belt Storm Probes Mission. , 2012, , 485-502.		7
77	Radioactive Elements on Mercuryâ€™s Surface from MESSENGER: Implications for the Planetâ€™s Formation and Evolution. Science, 2011, 333, 1850-1852.	12.6	233
78	Mapping iron abundances on the surface of Mercury: Predicted spatial resolution of the MESSENGER Gamma-Ray Spectrometer. Planetary and Space Science, 2011, 59, 1654-1658.	1.7	10
79	Predictions of MESSENGER Neutron Spectrometer measurements for Mercury's north polar region. Planetary and Space Science, 2011, 59, 1665-1669.	1.7	6
80	Analysis of MESSENGER Gamma-Ray Spectrometer data from the Mercury flybys. Planetary and Space Science, 2011, 59, 1829-1841.	1.7	18
81	Low-lying states in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">B</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>8</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>. Physical Review C, 2010, 82, .	2.9	15
82	Fission fragment isomers populated via<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mi mathvariant="normal">Li</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>6</mml:mn></mml:mrow></mml:mmultiscripts><mml:mo>+</mml:mo><mml:mmultiscripts><mml:mi mathvariant="normal">Th</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>232</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>.	2.9	21
83	Applications of nuclear resonance fluorescence. , 2010, , .		2
84	Lowest<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>l</mml:mi><mml:mo>=</mml:mo><mml:mn>0</mml:mn></mml:mrow></mml:math>proton resonance in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Si</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>26</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>and implications	2.9	37
85	Potential Applications of Nuclear Resonance Fluorescence. , 2009, , .		5
86	Astrophysical Reaction Rate for the Neutron-Generator ReactionC13(Î±,n)O16in Asymptotic Giant Branch Stars. Physical Review Letters, 2006, 97, 192701.	7.8	41