Thomas Berger

List of Publications by Year
in descending order

101 papers	3,207 citations	172386 29 h-index	168321 53 g-index
104 all docs	104 docs citations	104 times ranked	2748 citing authors

#	Article	IF	Citations
1	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
2	Role of DNA Repair by Nonhomologous-End Joining in Bacillus subtilis Spore Resistance to Extreme Dryness, Mono- and Polychromatic UV, and Ionizing Radiation. Journal of Bacteriology, 2007, 189, 3306-3311.	1.0	139
3	Survival of lichens and bacteria exposed to outer space conditions â€“ Results of the Lithopanspermia experiments. Icarus, 2010, 208, 735-748.	1.1	123
4	A ready-to-use galactic cosmic ray model. Advances in Space Research, 2013, 51, 329-338.	1.2	118
5	Astronaut's Organ Doses Inferred from Measurements in a Human Phantom Outside the International Space Station. Radiation Research, 2009, 171, 225-235.	0.7	116
6	Limits of Life and the Habitability of Mars: The ESA Space Experiment BIOMEX on the ISS. Astrobiology, 2019, 19, 145-157.	1.5	111
7	First measurements of the radiation dose on the lunar surface. Science Advances, 2020, 6, .	4.7	84
8	Roles of the Major, Small, Acid-Soluble Spore Proteins and Spore-Specific and Universal DNA Repair Mechanisms in Resistance of <i>Bacillus subtilis</i> Spores to Ionizing Radiation from X Rays and High-Energy Charged-Particle Bombardment. Journal of Bacteriology, 2008, 190, 1134-1140.	1.0	81
9	TL-efficiencyâ€”Overview and experimental results over the years. Radiation Measurements, 2008, 43, 146-156.	0.7	78
10	Supporting Mars exploration: BIOMEX in Low Earth Orbit and further astrobiological studies on the Moon using Raman and PanCam technology. Planetary and Space Science, 2012, 74, 103-110.	0.9	77
11	Out-of-field dose measurements in a water phantom using different radiotherapy modalities. Physics in Medicine and Biology, 2012, 57, 5059-5074.	1.6	75
12	The Martian surface radiation environment â€“ a comparison of models and MSL/RAD measurements. Journal of Space Weather and Space Climate, 2016, 6, A13.	1.1	70
13	The radiation environment on the surface of Mars - Summary of model calculations and comparison to RAD data. Life Sciences in Space Research, 2017, 14, 18-28.	1.2	57
14	STARLIFEâ€”An International Campaign to Study the Role of Galactic Cosmic Radiation in Astrobiological Model Systems. Astrobiology, 2017, 17, 101-109.	1.5	53
15	DOSIS & DOSIS 3D: long-term dose monitoring onboard the Columbus Laboratory of the International Space Station (ISS). Journal of Space Weather and Space Climate, 2016, 6, A39.	1.1	49
16	The MATROSHKA facilityâ€”dose determination during an EVA. Radiation Protection Dosimetry, 2006, 120, 442-445.	0.4	48
17	Temporal and spatial evolution of the solar energetic particle event on 20 January 2005 and resulting radiation doses in aviation. Journal of Geophysical Research, 2009, 114, .	3.3	47
18	Radiation exposure in the moon environment. Planetary and Space Science, 2012, 74, 78-83.	0.9	47

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19	Cosmic Radiation Exposure of Biological Test Systems During the EXPOSE-E Mission. Astrobiology, 2012, 12, 387-392.	1.5	46
20	Assessment of galactic cosmic ray models. Journal of Geophysical Research, 2012, 117, .	3.3	44
21	DOSIS & DOSIS 3D: radiation measurements with the DOSTEL instruments onboard the Columbus Laboratory of the ISS in the years 2009â€“2016. Journal of Space Weather and Space Climate, 2017, 7, A8.	1.1	44
22	Operational radiation protection for astronauts and cosmonauts and correlated activities of ESA Medical Operations. Acta Astronautica, 2010, 66, 963-973.	1.7	43
23	The MATROSHKA Experiment: Results and Comparison from Extravehicular Activity (MTR-1) and Intravehicular Activity (MTR-2A/2B) Exposure. Radiation Research, 2013, 180, 622-637.	0.7	39
24	Characterization of the secondary neutron field produced during treatment of an anthropomorphic phantom with x-rays, protons and carbon ions. Physics in Medicine and Biology, 2014, 59, 2111-2125.	1.6	37
25	Astrobiological Aspects of the Mutagenesis of Cosmic Radiation on Bacterial Spores. Astrobiology, 2010, 10, 509-521.	1.5	35
26	In Situ Data and Effect Correlation During September 2017 Solar Particle Event. Space Weather, 2019, 17, 99-117.	1.3	35
27	Radiation dosimetry onboard the International Space Station ISS. Zeitschrift Fur Medizinische Physik, 2008, 18, 265-275.	0.6	34
28	Out-of-field dose studies with an anthropomorphic phantom: Comparison of X-rays and particle therapy treatments. Radiotherapy and Oncology, 2012, 105, 133-138.	0.3	34
29	Calibration and Characterization of the Radiation Assessment Detector (RAD) on Curiosity. Space Science Reviews, 2016, 201, 201-233.	3.7	30
30	LET dependence of thermoluminescent efficiency and peak height ratio of CaF2:Tm. Radiation Measurements, 2008, 43, 1135-1139.	0.7	29
31	Analysis of the Radiation Hazard Observed by RAD on the Surface of Mars During the September 2017 Solar Particle Event. Geophysical Research Letters, 2018, 45, 5845-5851.	1.5	29
32	Energetic Particle Radiation Environment Observed by RAD on the Surface of Mars During the September 2017 Event. Geophysical Research Letters, 2018, 45, 5305-5311.	1.5	29
33	The efficiency of various thermoluminescence dosemeter types to heavy ions. Radiation Protection Dosimetry, 2006, 120, 365-368.	0.4	27
34	Eu:CROPIS â€" â€œEuglena gracilis: Combined Regenerative Organic-food Production in Spaceâ€• A Space Experiment Testing Biological Life Support Systems Under Lunar And Martian Gravity. Microgravity Science and Technology, 2018, 30, 933-942.	0.7	27
35	The Solar Particle Event on 10 September 2017 as observed onboard the International Space Station (ISS). Space Weather, 2018, 16, 1173-1189.	1.3	26
36	On the linearity of the high-temperature emission from 7LiF:Mg,Ti (TLD-700). Radiation Measurements, 2008, 43, 1467-1473.	0.7	25

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37	Carbon-Ion-Induced Activation of the NF-ÎºB Pathway. Radiation Research, 2011, 175, 424-431.	0.7	25
38	High-energy proton imaging for biomedical applications. Scientific Reports, 2016, 6, 27651.	1.6	25
39	MARSBOx: Fungal and Bacterial Endurance From a Balloon-Flown Analog Mission in the Stratosphere. Frontiers in Microbiology, 2021, 12, 601713.	1.5	25
40	Activation of the Nuclear Factor ÎºB pathway by heavy ion beams of different linear energy transfer. International Journal of Radiation Biology, 2011, 87, 954-963.	1.0	24
41	Convolution of TLD and SSNTD measurements during the BRADOS-1 experiment onboard ISS (2001). Radiation Measurements, 2008, 43, 1231-1236.	0.7	23
42	The ground level event 70 on December 13th, 2006 and related effective doses at aviation altitudes. Radiation Protection Dosimetry, 2009, 136, 304-310.	0.4	23
43	The Lunar Lander Neutron and Dosimetry (LND) Experiment on Changâ€™E 4. Space Science Reviews, 2020, 216, 1.	3.7	23
44	Comparison of the response of various TLDs to cosmic radiation and ion beams: Current results of the HAMLET project. Radiation Measurements, 2011, 46, 1680-1685.	0.7	22
45	Radiation Measurements Performed with Active Detectors Relevant for Human Space Exploration. Frontiers in Oncology, 2015, 5, 273.	1.3	22
46	Space Weather on the Surface of Mars: Impact of the September 2017 Events. Space Weather, 2018, 16, 1702-1708.	1.3	22
47	Radiation measured for MATROSHKA-1 experiment with passive dosimeters. Acta Astronautica, 2010, 66, 301-308.	1.7	21
48	Analysis of the neutron component at high altitude mountains using active and passive measurement devices. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 476, 69-73.	0.7	19
49	Novel shielding materials for space and air travel. Radiation Protection Dosimetry, 2006, 120, 405-409.	0.4	19
50	Estimation of Galactic Cosmic Ray exposure inside and outside the Earthâ€™s magnetosphere during the recent solar minimum between solar cycles 23 and 24. Advances in Space Research, 2013, 52, 979-987.	1.2	19
51	How Galactic Cosmic Ray models affect the estimation of radiation exposure in space. Advances in Space Research, 2013, 51, 825-834.	1.2	19
52	The radiation environment on the surface of Mars â€" Numerical calculations of the galactic component with GEANT4/PLANETOCOSMICS. Life Sciences in Space Research, 2017, 14, 57-63.	1.2	19
53	The Solar Particle Event on 10â€"13 September 2017: Spectral Reconstruction and Calculation of the Radiation Exposure in Aviation and Space. Space Weather, 2018, 16, 977-986.	1.3	19
54	Austrian dose measurements onboard space station MIR and the International Space Station â€" overview and comparison. Advances in Space Research, 2004, 34, 1414-1419.	1.2	18

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55	Dose distribution in the Russian Segment of the International Space Station. Radiation Protection Dosimetry, 2006, 120, 446-449.	0.4	18
56	A TLD-based personal dosemeter system for aircrew monitoring. Radiation Protection Dosimetry, 2004, 110, 337-341.	0.4	17
57	Efficiency-corrected dose verification with thermoluminescence dosemeters in heavy-ion beams. Radiation Protection Dosimetry, 2006, 120, 361-364.	0.4	17
58	Matroshka DOSTEL measurements onboard the International Space Station (ISS). Journal of Space Weather and Space Climate, 2015, 5, A38.	1.1	16
59	NUNDO: a numerical model of a human torso phantom and its application to effective dose equivalent calculations for astronauts at the ISS. Radiation and Environmental Biophysics, 2014, 53, 719-727.	0.6	15
60	Preparation of the Biochip experiment on the EXPOSE-R2 mission outside the International Space Station. Advances in Space Research, 2013, 52, 2168-2179.	1.2	14
61	Cosmic radiation exposure of biological test systems during the EXPOSE-R mission. International Journal of Astrobiology, 2015, 14, 27-32.	0.9	14
62	The Altcriss project on board the International Space Station. Advances in Space Research, 2007, 40, 1746-1753.	1.2	13
63	PHITS simulations of the Matroshka experiment. Advances in Space Research, 2010, 46, 1266-1272.	1.2	13
64	Simulations of MATROSHKA experiment outside the ISS using PHITS. Advances in Space Research, 2012, 50, 489-495.	1.2	13
65	Measurements of radiation quality factor on Mars with the Mars Science Laboratory Radiation Assessment Detector. Life Sciences in Space Research, 2019, 22, 89-97.	1.2	13
66	Long term variations of galactic cosmic radiation on board the International Space Station, on the Moon and on the surface of Mars. Journal of Space Weather and Space Climate, 0, , .	1.1	13
67	BRADOS â€“ Dose determination in the Russian Segment of the International Space Station. Advances in Space Research, 2006, 37, 1664-1667.	1.2	12
68	Comparison of various techniques for the exact determination of absorbed dose in heavy ion fields using passive detectors. Advances in Space Research, 2006, 37, 1716-1721.	1.2	12
69	Organ shielding and doses in Low-Earth orbit calculated for spherical and anthropomorphic phantoms. Advances in Space Research, 2013, 52, 528-535.	1.2	12
70	Application of the High-temperature Ratio Method for Evaluation of the Depth Distribution of Dose Equivalent in a Water-filled Phantom On Board Space Station Mir. Radiation Protection Dosimetry, 2002, 100, 503-506.	0.4	11
71	Thermoluminescence fading studies: Implications for long-duration space measurements in Low Earth Orbit. Radiation Measurements, 2013, 56, 303-306.	0.7	11
72	The Role of the Nuclear Factor ÎºB Pathway in the Cellular Response to Low and High Linear Energy Transfer Radiation. International Journal of Molecular Sciences, 2018, 19, 2220.	1.8	11

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73	The German Aerospace Center M-42 radiation detectorâ€"A new development for applications in mixed radiation fields. Review of Scientific Instruments, 2019, 90, 125115.	0.6	11
74	Exploiting different active silicon detectors in the International Space Station: ALTEA and DOSTEL galactic cosmic radiation (GCR) measurements. Journal of Space Weather and Space Climate, 2017, 7, A18.	1.1	10
75	Long-term dose measurements applying a human anthropomorphic phantom onboard an aircraft. Radiation Measurements, 2008, 43, 580-584.	0.7	8
76	Space experiment â€œCellular Responses to Radiation in Space (CellRad) â€• Hardware and biological system tests. Life Sciences in Space Research, 2015, 7, 73-89.	1.2	7
77	TLD efficiency calculations for heavy ions: an analytical approach. European Physical Journal D, 2015, 69, 1.	0.6	6
78	Constitutive expression of tdTomato protein as a cytotoxicity and proliferation marker for space radiation biology. Life Sciences in Space Research, 2015, 4, 35-45.	1.2	6
79	Influence of cosmic radiation spectrum and its variation on the relative efficiency of LiF thermoluminescent detectors â€" Calculations and measurements. Radiation Measurements, 2016, 88, 33-40.	0.7	6
80	Photochemistry on the Space Stationâ€"Aptamer Resistance to Space Conditions: Particles Exposure from Irradiation Facilities and Real Exposure Outside the International Space Station. Astrobiology, 2019, 19, 1063-1074.	1.5	6
81	Photochemistry on the Space Stationâ€"Antibody Resistance to Space Conditions after Exposure Outside the International Space Station. Astrobiology, 2019, 19, 1053-1062.	1.5	6
82	Directionality of the Martian Surface Radiation and Derivation of the Upward Albedo Radiation. Geophysical Research Letters, 2021, 48, e2021GL093912.	1.5	6
83	Passive in-flight neutron spectrometry by means of bonner spheres. Radiation Protection Dosimetry, 2004, 110, 343-346.	0.4	4
84	MATSIM: Development of a Voxel Model of the MATROSHKA Astronaut Dosimetric Phantom. IEEE Transactions on Nuclear Science, 2011, 58, 1921-1926.	1.2	4
85	A small active dosimeter for applications in space. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 748, 61-69.	0.7	4
86	Measurements of heavy-ion anisotropy and dose rates in the Russian section of the International Space Station with the Sileye-3/Alteino detector. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 025002.	1.4	4
87	Monte carlo simulations of MATROSHKA experiment outside ISS. , 2011, , .		3
88	The DOSIS and DOSIS 3D project on-board the ISS â€" Current status and scientific overview. , 2017, , .		3
89	5.2.2â€ƒIntercomparison of Radiation Detectors and Dosimeters for Use in Manned Space Flight. Radioisotopes, 2019, 68, 411-418.	0.1	3
90	Advantages of Passive Detectors for the Determination of the Cosmic Ray Induced Neutron Environment. Radiation Protection Dosimetry, 2002, 100, 541-544.	0.4	2

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91	The space experiment CERASP: Definition of a space-suited radiation source and growth conditions for human cells. Acta Astronautica, 2008, 63, 906-914.	1.7	2
92	Response calculations for silicon-based direct-reading dosimeters for use at the international space station (ISS). Radiation Measurements, 2010, 45, 1548-1552.	0.7	2
93	10Be Production in the Atmosphere by Galactic Cosmic Rays. Space Science Reviews, 2013, 176, 333-342.	3.7	2
94	Phobos LIFE (Living Interplanetary Flight Experiment). Astrobiology, 2019, 19, 1177-1185.	1.5	2
95	The Martian surface radiation environment at solar minimum measured with MSL/RAD. Icarus, 2023, 393, 115035.	1.1	2
96	Neutron dosimetry onboard aircraft using superheated emulsions. Radioactivity in the Environment, 2005, , 941-947.	0.2	1
97	Radiation in Space: The Physics. SpringerBriefs in Space Life Sciences, 2020, , 7-43.	0.1	1
98	Measurements and calculations of the radiation exposure of aircrew personnel on different flight routes. Radioactivity in the Environment, 2005, , 948-954.	0.2	0
99	5.2.5â€ƒCalibration of Detectors that Have Flown on Mir, ISS, Lunar Reconnaissance Orbiter, the Orion Spacecraft and the Mars Science Laboratory. Radioisotopes, 2019, 68, 433-441.	0.1	0
100	Radiation in Space: The Biology. SpringerBriefs in Space Life Sciences, 2020, , 45-85.	0.1	0
101	Challenges for Exploratory Missions. SpringerBriefs in Space Life Sciences, 2020, , 105-111.	0.1	0