

James Matthews

List of Publications by Year in descending order

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120
papers

21,536
citations

34076

52
h-index

20943

115
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120
all docs

120
docs citations

120
times ranked

15730
citing authors

#	ARTICLE	IF	CITATIONS
1	Testing effects of Lorentz invariance violation in the propagation of astroparticles with the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2022, 2022, 023.	1.9	5
2	A Search for Photons with Energies Above 2.5×10^{17} eV Using Hybrid Data from the Low-Energy Extensions of the Pierre Auger Observatory. <i>Astrophysical Journal</i> , 2022, 933, 125.	1.6	21
3	Measurement of the Fluctuations in the Number of Muons in Extensive Air Showers with the Pierre Auger Observatory. <i>Physical Review Letters</i> , 2021, 126, 152002.	2.9	34
4	Supernova neutrino burst detection with the Deep Underground Neutrino Experiment. <i>European Physical Journal C</i> , 2021, 81, 1.	1.4	62
5	Deep-learning based reconstruction of the shower maximum X_{max} using the water-Cherenkov detectors of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2021, 16, P07019.	0.5	16
6	Extraction of the muon signals recorded with the surface detector of the Pierre Auger Observatory using recurrent neural networks. <i>Journal of Instrumentation</i> , 2021, 16, P07016.	0.5	11
7	Measurement of the cosmic-ray energy spectrum above 2.5×10^{18} eV using the Pierre Auger Observatory. <i>Physical Review D</i> , 2020, 102, 023001.	1.6	98
8	Features of the Energy Spectrum of Cosmic Rays above 2.5×10^{18} eV Using the Pierre Auger Observatory. <i>Physical Review Letters</i> , 2020, 125, 121106.	2.9	79
9	Studies on the response of a water-Cherenkov detector of the Pierre Auger Observatory to atmospheric muons using an RPC hodoscope. <i>Journal of Instrumentation</i> , 2020, 15, P09002-P09002.	0.5	5
10	Direct measurement of the muonic content of extensive air showers between 2×10^{17} and 2×10^{18} eV at the Pierre Auger Observatory. <i>European Physical Journal C</i> , 2020, 80, 1.	1.4	36
11	Reconstruction of events recorded with the surface detector of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2020, 15, P10021-P10021.	0.5	20
12	Search for magnetically-induced signatures in the arrival directions of ultra-high-energy cosmic rays measured at the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2020, 2020, 017-017.	1.9	10
13	Transport of High-energy Charged Particles through Spatially Intermittent Turbulent Magnetic Fields. <i>Astrophysical Journal</i> , 2020, 892, 114.	1.6	8
14	Cosmic-Ray Anisotropies in Right Ascension Measured by the Pierre Auger Observatory. <i>Astrophysical Journal</i> , 2020, 891, 142.	1.6	39
15	A Search for Ultra-high-energy Neutrinos from TXS 0506+056 Using the Pierre Auger Observatory. <i>Astrophysical Journal</i> , 2020, 902, 105.	1.6	13
16	Probing the origin of ultra-high-energy cosmic rays with neutrinos in the EeV energy range using the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 022-022.	1.9	64
17	Data-driven estimation of the invisible energy of cosmic ray showers with the Pierre Auger Observatory. <i>Physical Review D</i> , 2019, 100, .	1.6	20
18	Limits on point-like sources of ultra-high-energy neutrinos with the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 004-004.	1.9	18

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19	Measurement of the average shape of longitudinal profiles of cosmic-ray air showers at the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 018-018.	1.9	10
20	An Indication of Anisotropy in Arrival Directions of Ultra-high-energy Cosmic Rays through Comparison to the Flux Pattern of Extragalactic Gamma-Ray Sources. <i>Astrophysical Journal Letters</i> , 2018, 853, L29.	3.0	165
21	Large-scale Cosmic-Ray Anisotropies above 4 EeV Measured by the Pierre Auger Observatory. <i>Astrophysical Journal</i> , 2018, 868, 4.	1.6	77
22	Observation of inclined EeV air showers with the radio detector of the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2018, 2018, 026-026.	1.9	30
23	Review of Particle Physics. <i>Physical Review D</i> , 2018, 98, .	1.6	5,390
24	Impact of atmospheric effects on the energy reconstruction of air showers observed by the surface detectors of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2017, 12, P02006-P02006.	0.5	8
25	Combined fit of spectrum and composition data as measured by the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2017, 2017, 038-038.	1.9	191
26	Multi-resolution anisotropy studies of ultrahigh-energy cosmic rays detected at the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2017, 2017, 026-026.	1.9	14
27	Muon counting using silicon photomultipliers in the AMIGA detector of the Pierre Auger observatory. <i>Journal of Instrumentation</i> , 2017, 12, P03002-P03002.	0.5	16
28	Search for photons with energies above 10^{18} eV using the hybrid detector of the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2017, 2017, 009-009.	1.9	49
29	A Targeted Search for Point Sources of EeV Photons with the Pierre Auger Observatory. <i>Astrophysical Journal Letters</i> , 2017, 837, L25.	3.0	21
30	Spectral calibration of the fluorescence telescopes of the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2017, 95, 44-56.	1.9	7
31	Observation of a large-scale anisotropy in the arrival directions of cosmic rays above 8×10^{18} eV. <i>Science</i> , 2017, 357, 1266-1270.	6.0	261
32	Inferences on mass composition and tests of hadronic interactions from 0.3 to 100 EeV using the water-Cherenkov detectors of the Pierre Auger Observatory. <i>Physical Review D</i> , 2017, 96, .	1.6	82
33	Calibration of the logarithmic-periodic dipole antenna (LPDA) radio stations at the Pierre Auger Observatory using an octocopter. <i>Journal of Instrumentation</i> , 2017, 12, T10005-T10005.	0.5	21
34	Ultrahigh-energy neutrino follow-up of gravitational wave events GW150914 and GW151226 with the Pierre Auger Observatory. <i>Physical Review D</i> , 2016, 94, .	1.6	38
35	Evidence for a mixed mass composition at the $\tilde{\text{ankle}}^{\text{TM}}$ in the cosmic-ray spectrum. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2016, 762, 288-295.	1.5	84
36	Search for ultrarelativistic magnetic monopoles with the Pierre Auger observatory. <i>Physical Review D</i> , 2016, 94, .	1.6	15

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37	Azimuthal asymmetry in the risetime of the surface detector signals of the Pierre Auger Observatory. <i>Physical Review D</i> , 2016, 93, .	1.6	21
38	Energy estimation of cosmic rays with the Engineering Radio Array of the Pierre Auger Observatory. <i>Physical Review D</i> , 2016, 93, .	1.6	80
39	Measurement of the Radiation Energy in the Radio Signal of Extensive Air Showers as a Universal Estimator of Cosmic-Ray Energy. <i>Physical Review Letters</i> , 2016, 116, 241101.	2.9	91
40	Testing Hadronic Interactions at Ultrahigh Energies with Air Showers Measured by the Pierre Auger Observatory. <i>Physical Review Letters</i> , 2016, 117, 192001.	2.9	154
41	SEARCHES FOR ANISOTROPIES IN THE ARRIVAL DIRECTIONS OF THE HIGHEST ENERGY COSMIC RAYS DETECTED BY THE PIERRE AUGER OBSERVATORY. <i>Astrophysical Journal</i> , 2015, 804, 15.	1.6	146
42	Improved limit to the diffuse flux of ultrahigh energy neutrinos from the Pierre Auger Observatory. <i>Physical Review D</i> , 2015, 91, .	1.6	125
43	Muons in air showers at the Pierre Auger Observatory: Mean number in highly inclined events. <i>Physical Review D</i> , 2015, 91, .	1.6	152
44	Search for patterns by combining cosmic-ray energy and arrival directions at the Pierre Auger Observatory. <i>European Physical Journal C</i> , 2015, 75, 269.	1.4	12
45	LARGE SCALE DISTRIBUTION OF ULTRA HIGH ENERGY COSMIC RAYS DETECTED AT THE PIERRE AUGER OBSERVATORY WITH ZENITH ANGLES UP TO 80°. <i>Astrophysical Journal</i> , 2015, 802, 111.	1.6	49
46	Depth of maximum of air-shower profiles at the Pierre Auger Observatory. I. Measurements at energies above 10^{19} eV. <i>Physical Review D</i> , 2014, 90, .	1.6	266
47	Depth of maximum of air-shower profiles at the Pierre Auger Observatory. II. Composition implications. <i>Physical Review D</i> , 2014, 90, .	1.6	213
48	SEARCHES FOR LARGE-SCALE ANISOTROPY IN THE ARRIVAL DIRECTIONS OF COSMIC RAYS DETECTED ABOVE ENERGY OF 10^{19} eV AT THE PIERRE AUGER OBSERVATORY AND THE TELESCOPE ARRAY. <i>Astrophysical Journal</i> , 2014, 794, 172.	1.6	72
49	A SEARCH FOR POINT SOURCES OF EeV PHOTONS. <i>Astrophysical Journal</i> , 2014, 789, 160.	1.6	29
50	Probing the radio emission from air showers with polarization measurements. <i>Physical Review D</i> , 2014, 89, .	1.6	85
51	Muons in air showers at the Pierre Auger Observatory: Measurement of atmospheric production depth. <i>Physical Review D</i> , 2014, 90, .	1.6	69
52	A TARGETED SEARCH FOR POINT SOURCES OF EeV NEUTRONS. <i>Astrophysical Journal Letters</i> , 2014, 789, L34.	3.0	14
53	Origin of atmospheric aerosols at the Pierre Auger Observatory using studies of air mass trajectories in South America. <i>Atmospheric Research</i> , 2014, 149, 120-135.	1.8	6
54	Review of Particle Physics. <i>Physical Review D</i> , 2012, 86, .	1.6	5,054

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55	The exposure of the hybrid detector of the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2011, 34, 368-381.	1.9	54
56	Search for first harmonic modulation in the right ascension distribution of cosmic rays detected at the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2011, 34, 627-639.	1.9	73
57	Advanced functionality for radio analysis in the Offline software framework of the Pierre Auger Observatory. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2011, 635, 92-102.	0.7	52
58	Trigger and aperture of the surface detector array of the Pierre Auger Observatory. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2010, 613, 29-39.	0.7	151
59	Measurement of the energy spectrum of cosmic rays above 1018 eV using the Pierre Auger Observatory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2010, 685, 239-246.	1.5	357
60	Measurement of the Depth of Maximum of Extensive Air Showers above 10^{18} eV. <i>Physical Review Letters</i> , 2010, 104, 091101.	2.9	429
61	Atmospheric effects on extensive air showers observed with the surface detector of the Pierre Auger observatory. <i>Astroparticle Physics</i> , 2009, 32, 89-99.	1.9	43
62	Upper limit on the cosmic-ray photon fraction at EeV energies from the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2009, 31, 399-406.	1.9	117
63	Limit on the diffuse flux of ultrahigh energy tau neutrinos with the surface detector of the Pierre Auger Observatory. <i>Physical Review D</i> , 2009, 79, .	1.6	99
64	Correlation of the highest-energy cosmic rays with the positions of nearby active galactic nuclei. <i>Astroparticle Physics</i> , 2008, 29, 188-204.	1.9	305
65	Upper limit on the cosmic-ray photon flux above 1019eV using the surface detector of the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2008, 29, 243-256.	1.9	161
66	Observation of the Suppression of the Flux of Cosmic Rays above 4×10^{19} eV. <i>Physical Review Letters</i> , 2008, 101, 061101.	2.8	500
67	Upper Limit on the Diffuse Flux of Ultrahigh Energy Tau Neutrinos from the Pierre Auger Observatory. <i>Physical Review Letters</i> , 2008, 100, 211101.	2.9	141
68	Correlation of the Highest-Energy Cosmic Rays with Nearby Extragalactic Objects. <i>Science</i> , 2007, 318, 938-943.	6.0	647
69	An upper limit to the photon fraction in cosmic rays above 1019eV from the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2007, 27, 155-168.	1.9	90
70	Anisotropy studies around the galactic centre at EeV energies with the Auger Observatory. <i>Astroparticle Physics</i> , 2007, 27, 244-253.	1.9	51
71	The Central Laser Facility at the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2006, 1, P11003-P11003.	0.5	55
72	A Heitler model of extensive air showers. <i>Astroparticle Physics</i> , 2005, 22, 387-397.	1.9	225

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73	Absolute photometric calibration of large aperture optical systems. <i>Astroparticle Physics</i> , 2004, 20, 653-659.	1.9	16
74	Properties and performance of the prototype instrument for the Pierre Auger Observatory. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2004, 523, 50-95.	0.7	647
75	The composition of cosmic rays at the knee. <i>Astroparticle Physics</i> , 2002, 18, 129-150.	1.9	55
76	Measurement of the Cosmic-ray Energy Spectrum and Composition from 1017 to 1018.3 eV Using a Hybrid Technique. <i>Astrophysical Journal</i> , 2001, 557, 686-699.	1.6	173
77	A measurement of the average longitudinal development profile of cosmic ray air showers between 1017 and 1018 eV. <i>Astroparticle Physics</i> , 2001, 16, 1-11.	1.9	43
78	Evidence for Changing of Cosmic Ray Composition between 1017 and 1018 eV from Multicomponent Measurements. <i>Physical Review Letters</i> , 2000, 84, 4276-4279.	2.9	172
79	Search for nucleon decay using the IMB-3 detector. <i>Physical Review D</i> , 1999, 59, .	1.6	49
80	The cosmic ray energy spectrum between 1014 and 1016 eV. <i>Astroparticle Physics</i> , 1999, 10, 291-302.	1.9	99
81	The cosmic ray composition between 1014 and 1016 eV. <i>Astroparticle Physics</i> , 1999, 12, 1-17.	1.9	66
82	Energy spectra and composition near the knee. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 1999, 75, 241-243.	0.5	1
83	Constraints on Gamma-ray Emission from the Galactic Plane at 300 TeV. <i>Astrophysical Journal</i> , 1998, 493, 175-179.	1.6	53
84	Limits on the Isotropic Diffuse Flux of Ultrahigh Energy γ Radiation. <i>Physical Review Letters</i> , 1997, 79, 1805-1808.	2.9	79
85	High statistics search for ultrahigh energy γ -ray emission from Cygnus X-3 and Hercules X-1. <i>Physical Review D</i> , 1997, 55, 1714-1731.	1.6	31
86	A Search for Ultra-high Energy Gamma-ray Emission from the Crab Nebula and Pulsar. <i>Astrophysical Journal</i> , 1997, 481, 313-326.	1.6	25
87	Search for Ultra High Energy (UHE) γ -ray counterparts of BATSE 3B catalog events. <i>AIP Conference Proceedings</i> , 1996, .	0.3	1
88	A search for diffuse sources of ultra high energy gamma-rays. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 1996, 48, 483-484.	0.5	0
89	A Search for Ultrahigh-Energy Gamma Rays from EGRET-detected Active Galactic Nuclei Using CASA-MIA. <i>Astrophysical Journal</i> , 1996, 469, 572.	1.6	8
90	Recent results from the CASA-MIA experiment. , 1995, .		1

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91	Calibration of the IMB detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1995, 352, 629-639.	0.7	6
92	Observation of the shadows of the Moon and Sun using 100 TeV cosmic rays. Physical Review D, 1994, 49, 1171-1177.	1.6	16
93	A large air shower array to search for astrophysical sources emitting $\hat{\Gamma}^3$ -rays with energies $\hat{\alpha}\%¥1014$ eV. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 346, 329-352.	0.7	84
94	IMB-3: a large water Cherenkov detector for nucleon decay and neutrino interactions. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1993, 324, 363-382.	0.7	44
95	Search for first-generation leptoquarks in \hat{p} -collisions at $s=1.8$ TeV. Physical Review D, 1993, 48, R3939-R3944.	1.6	31
96	A Northern Sky Survey for Astrophysical Point Sources of 100 TeV Gamma Radiation. Astrophysical Journal, 1993, 417, 742.	1.6	26
97	Search for compact sources of cosmic photons above 200 TeV. Physical Review D, 1992, 46, 3248-3255.	1.6	4
98	Search for discrete sources of 100 TeV gamma radiation. Physical Review D, 1992, 45, 4385-4391.	1.6	20
99	Search for muon neutrino oscillations with the Irvine-Michigan-Brookhaven detector. Physical Review Letters, 1992, 69, 1010-1013.	2.9	109
100	A search for astrophysical point sources of 100 TeV gamma rays by the UMC collaboration. AIP Conference Proceedings, 1992, , .	0.3	0
101	Measurement of atmospheric neutrino composition with the IMB-3 detector. Physical Review Letters, 1991, 66, 2561-2564.	2.9	386
102	Search for diffuse cosmic gamma rays above 200 TeV. Astrophysical Journal, 1991, 375, 202.	1.6	33
103	The UMC extensive air shower array: Results and prospects. AIP Conference Proceedings, 1990, , .	0.3	0
104	Search for > 200 TeV photons from Cygnus X-3 in 1988 and 1989. Physical Review D, 1990, 42, 281-288.	1.6	3
105	Search for proton decay into $e^+e^+\bar{\nu}_e$ in the IMB-3 detector. Physical Review D, 1990, 42, 2974-2976.	1.6	38
106	Experimental upper limit to the galactic stellar-collapse rate. Physical Review Letters, 1989, 62, 2069-2072.	2.9	7
107	Search for $\hat{\Gamma}^3$ rays above 1014 eV from Cygnus X-3 during the June and July 1989 radio outbursts. Physical Review Letters, 1989, 63, 2329-2332.	2.9	7
108	A search for nucleon decay with multiple muon decays. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1989, 224, 348-352.	1.5	15

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109	The Haleakala gamma ray observatory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1988, 269, 297-304.	0.7	11
110	Neutrinos from SN1987a in the IMB detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1988, 264, 28-31.	0.7	19
111	Neutrino astrophysics with IMB: past, present, and future. Nuclear Physics, Section B, Proceedings Supplements, 1988, 3, 463-470.	0.5	0
112	Search for Multitrack Nucleon Decay. Physical Review Letters, 1988, 61, 2522-2525.	2.9	29
113	Angular distribution of events from SN1987A. Physical Review D, 1988, 37, 3361-3363.	1.6	121
114	VHE gamma rays from Hercules X-1. Astrophysical Journal, 1988, 328, L9.	1.6	47
115	Underground search for muons correlated with Cygnus X-3. Physical Review D, 1987, 36, 30-36.	1.6	18
116	Observation of a neutrino burst in coincidence with supernova 1987A in the Large Magellanic Cloud. Physical Review Letters, 1987, 58, 1494-1496.	2.9	1,459
117	A waveshifter light collector for a water Cherenkov detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1987, 261, 540-542.	0.7	19
118	Limits on the flux of energetic neutrinos from the sun. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1987, 188, 388-392.	1.5	60
119	An upper limit on the flux of extraterrestrial neutrinos. Astrophysical Journal, 1987, 315, 420.	1.6	56
120	Calculation of Atmospheric Neutrino-Induced Backgrounds in a Nucleon-Decay Search. Physical Review Letters, 1986, 57, 1986-1989.	2.9	123