

Rafael Alves Batista

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

82

papers

2,367

citations

26

h-index

47

g-index

89

ext. papers

3,076

ext. citations

4.2

avg, IF

5.53

L-index

#	Paper	IF	Citations
82	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	6.4	1
81	Quantum gravity phenomenology at the dawn of the multi-messenger era A review. <i>Progress in Particle and Nuclear Physics</i> , 2022 , 103948	10.6	10
80	The energy spectrum of cosmic rays beyond the turn-down around (10^{17}) eV as measured with the surface detector of the Pierre Auger Observatory. <i>European Physical Journal C</i> , 2021 , 81, 1	4.2	5
79	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	7.4	6
78	The Gamma-ray Window to Intergalactic Magnetism. <i>Universe</i> , 2021 , 7, 223	2.5	11
77	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	1	3
76	Sensitivity of the Cherenkov Telescope Array for probing cosmology and fundamental physics with gamma-ray propagation. <i>Journal of Cosmology and Astroparticle Physics</i> , 2021 , 2021, 048-048	6.4	14
75	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	1	1
74	High-energy neutrino production in clusters of galaxies. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021 , 507, 1762-1774	4.3	2
73	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	6.4	6
72	Propagation of cosmic rays and their secondaries in the intracluster medium. <i>Proceedings of the International Astronomical Union</i> , 2020 , 15, 178-179	0.1	
71	A Search for Ultra-high-energy Neutrinos from TXS 0506+056 Using the Pierre Auger Observatory. <i>Astrophysical Journal</i> , 2020 , 902, 105	4.7	2
70	Multimessenger Constraints on Intergalactic Magnetic Fields from the Flare of TXS 0506+056. <i>Astrophysical Journal Letters</i> , 2020 , 902, L11	7.9	7
69	The intrinsic gamma-ray spectrum of TXS 0506+056: intergalactic propagation effects. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020 , 500, 2188-2195	4.3	2
68	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,	4.9	22
67	Cosmic Inflation: Trick or Treat? 2020 , 111-173		1
66	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	7.4	26

65	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	1	2
64	The Giant Radio Array for Neutrino Detection (GRAND): Science and design. <i>Science China: Physics, Mechanics and Astronomy</i> , 2020 , 63, 1	3.6	65
63	On the measurement of the helicity of intergalactic magnetic fields using ultra-high-energy cosmic rays. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019 , 2019, 011-011	6.4	2
62	Monte Carlo studies for the optimisation of the Cherenkov Telescope Array layout. <i>Astroparticle Physics</i> , 2019 , 111, 35-53	2.4	23
61	CRPropa - A Toolbox for Cosmic Ray Simulations. <i>Journal of Physics: Conference Series</i> , 2019 , 1181, 012034	3	0
60	Cosmogenic photon and neutrino fluxes in the Auger era. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019 , 2019, 002-002	6.4	43
59	Determining the fraction of cosmic-ray protons at ultrahigh energies with cosmogenic neutrinos. <i>Physical Review D</i> , 2019 , 100,	4.9	22
58	Very-high-energy Emission from Magnetic Reconnection in the Radiative-inefficient Accretion Flow of SgrA*. <i>Astrophysical Journal</i> , 2019 , 879, 6	4.7	8
57	Secondary neutrino and gamma-ray fluxes from SimProp and CRPropa. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019 , 2019, 006-006	6.4	9
56	The Impact of Plasma Instabilities on the Spectra of TeV Blazars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019 ,	4.3	14
55	Science with the Cherenkov Telescope Array 2019 ,		97
54	Open Questions in Cosmic-Ray Research at Ultrahigh Energies. <i>Frontiers in Astronomy and Space Sciences</i> , 2019 , 6,	3.8	49
53	Neutrino and γ -ray Emission from the Core of NGC1275 by Magnetic Reconnection: GRMHD Simulations and Radiative Transfer/Particle Calculations. <i>Proceedings of the International Astronomical Union</i> , 2018 , 14, 184-188	0.1	
52	Implications of strong intergalactic magnetic fields for ultrahigh-energy cosmic-ray astronomy. <i>Physical Review D</i> , 2017 , 96,	4.9	30
51	The Resilience of Life to Astrophysical Events. <i>Scientific Reports</i> , 2017 , 7, 5419	4.9	24
50	Ultrahigh-energy cosmic rays from tidally-ignited white dwarfs. <i>Physical Review D</i> , 2017 , 96,	4.9	14
49	Cosmogenic gamma-rays and neutrinos constrain UHECR source models 2017 ,		2
48	Studying cosmological γ -ray propagation with the Cherenkov Telescope Array 2017 ,		2

47	The Giant Radio Array for Neutrino Detection (GRAND): Present and Perspectives 2017 ,		4
46	Azimuthal asymmetry in the risetime of the surface detector signals of the Pierre Auger Observatory. <i>Physical Review D</i> , 2016 , 93,	4.9	12
45	Energy estimation of cosmic rays with the Engineering Radio Array of the Pierre Auger Observatory. <i>Physical Review D</i> , 2016 , 93,	4.9	62
44	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	7.4	65
43	Probing intergalactic magnetic fields with simulations of electromagnetic cascades. <i>Physical Review D</i> , 2016 , 94,	4.9	18
42	Nanosecond-level time synchronization of autonomous radio detector stations for extensive air showers. <i>Journal of Instrumentation</i> , 2016 , 11, P01018-P01018	1	15
41	Search for correlations between the arrival directions of IceCube neutrino events and ultrahigh-energy cosmic rays detected by the Pierre Auger Observatory and the Telescope Array. <i>Journal of Cosmology and Astroparticle Physics</i> , 2016 , 2016, 037-037	6.4	21
40	Prototype muon detectors for the AMIGA component of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2016 , 11, P02012-P02012	1	32
39	CRPropa 3: public astrophysical simulation framework for propagating extraterrestrial ultra-high energy particles. <i>Journal of Cosmology and Astroparticle Physics</i> , 2016 , 2016, 038-038	6.4	122
38	Publisher's Note: Muons in air showers at the Pierre Auger Observatory: Mean number in highly inclined events [Phys. Rev. D 91, 032003 (2015)]. <i>Physical Review D</i> , 2015 , 91,	4.9	32
37	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	4.2	9
36	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	4.7	43
35	Cosmic ray propagation with CRPropa 3. <i>Journal of Physics: Conference Series</i> , 2015 , 608, 012076	0.3	3
34	Measurement of the cosmic ray spectrum above 4 × 10 ¹⁸ eV using inclined events detected with the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2015 , 2015, 049-049	6.4	15
33	Effects of uncertainties in simulations of extragalactic UHECR propagation, using CRPropa and SimProp. <i>Journal of Cosmology and Astroparticle Physics</i> , 2015 , 2015, 063-063	6.4	37
32	CRPropa: A public framework to propagate UHECRs in the universe. <i>EPJ Web of Conferences</i> , 2015 , 99, 13004	0.3	4
31	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	4.7	113
30	Improved limit to the diffuse flux of ultrahigh energy neutrinos from the Pierre Auger Observatory. <i>Physical Review D</i> , 2015 , 91,	4.9	108

29	Muons in air showers at the Pierre Auger Observatory: Mean number in highly inclined events. <i>Physical Review D</i> , 2015 , 91,	4.9	100
28	Propagation of UHECRs in the universe. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2014 , 742, 245-249	1.2	2
27	Highlights from the Pierre Auger Observatory. <i>Brazilian Journal of Physics</i> , 2014 , 44, 560-570	1.2	25
26	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	5.4	6
25	Using spherical wavelets to search for magnetically-induced alignment in the arrival directions of ultra-high energy cosmic rays. <i>Astroparticle Physics</i> , 2014 , 54, 54-60	2.4	5
24	Depth of maximum of air-shower profiles at the Pierre Auger Observatory. I. Measurements at energies above 1017.8 eV. <i>Physical Review D</i> , 2014 , 90,	4.9	195
23	Depth of maximum of air-shower profiles at the Pierre Auger Observatory. II. Composition implications. <i>Physical Review D</i> , 2014 , 90,	4.9	157
22	SEARCHES FOR LARGE-SCALE ANISOTROPY IN THE ARRIVAL DIRECTIONS OF COSMIC RAYS DETECTED ABOVE ENERGY OF 1019eV AT THE PIERRE AUGER OBSERVATORY AND THE TELESCOPE ARRAY. <i>Astrophysical Journal</i> , 2014 , 794, 172	4.7	56
21	A SEARCH FOR POINT SOURCES OF EeV PHOTONS. <i>Astrophysical Journal</i> , 2014 , 789, 160	4.7	23
20	Reconstruction of inclined air showers detected with the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014 , 2014, 019-019	6.4	36
19	Probing the radio emission from air showers with polarization measurements. <i>Physical Review D</i> , 2014 , 89,	4.9	63
18	Publisher's Note: Muons in air showers at the Pierre Auger Observatory: Measurement of atmospheric production depth [Phys. Rev. D 90, 012012 (2014)]. <i>Physical Review D</i> , 2014 , 90,	4.9	10
17	Muons in air showers at the Pierre Auger Observatory: Measurement of atmospheric production depth. <i>Physical Review D</i> , 2014 , 90,	4.9	44
16	Diffusion of cosmic rays at EeV energies in inhomogeneous extragalactic magnetic fields. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014 , 2014, 031-031	6.4	24
15	A TARGETED SEARCH FOR POINT SOURCES OF EeV NEUTRONS. <i>Astrophysical Journal Letters</i> , 2014 , 789, L34	7.9	11
14	Identifying clouds over the Pierre Auger Observatory using infrared satellite data. <i>Astroparticle Physics</i> , 2013 , 50-52, 92-101	2.4	6
13	Search for ultra-high energy neutrinos with the Pierre Auger Observatory. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2013 , 725, 80-84	1.2	
12	Ultrahigh Energy Neutrinos at the Pierre Auger Observatory. <i>Advances in High Energy Physics</i> , 2013 , 2013, 1-18	1	25

11	Techniques for measuring aerosol attenuation using the Central Laser Facility at the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2013 , 8, P04009-P04009	1	20
10	Interpretation of the depths of maximum of extensive air showers measured by the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2013 , 2013, 026-026	6.4	11
9	CONSTRAINTS ON THE ORIGIN OF COSMIC RAYS ABOVE 10 ¹⁸ eV FROM LARGE-SCALE ANISOTROPY SEARCHES IN DATA OF THE PIERRE AUGER OBSERVATORY. <i>Astrophysical Journal Letters</i> , 2013 , 762, L13	7.9	53
8	Bounds on the density of sources of ultra-high energy cosmic rays from the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2013 , 2013, 009-009	6.4	31
7	SEARCH FOR POINT-LIKE SOURCES OF ULTRA-HIGH ENERGY NEUTRINOS AT THE PIERRE AUGER OBSERVATORY AND IMPROVED LIMIT ON THE DIFFUSE FLUX OF TAU NEUTRINOS. <i>Astrophysical Journal Letters</i> , 2012 , 755, L4	7.9	46
6	Antennas for the detection of radio emission pulses from cosmic-ray induced air showers at the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2012 , 7, P10011-P10011	1	72
5	A SEARCH FOR POINT SOURCES OF EeV NEUTRONS. <i>Astrophysical Journal</i> , 2012 , 760, 148	4.7	21
4	LARGE-SCALE DISTRIBUTION OF ARRIVAL DIRECTIONS OF COSMIC RAYS DETECTED ABOVE 10 ¹⁸ eV AT THE PIERRE AUGER OBSERVATORY. <i>Astrophysical Journal, Supplement Series</i> , 2012 , 203, 34	8	39
3	The rapid atmospheric monitoring system of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2012 , 7, P09001-P09001	1	22
2	Results of a self-triggered prototype system for radio-detection of extensive air showers at the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2012 , 7, P11023-P11023	1	19
1	DETECTION OF POINT SOURCES IN COSMIC RAY MAPS USING THE MEXICAN HAT WAVELET FAMILY. <i>International Journal of Modern Physics E</i> , 2011 , 20, 61-66	0.7	4