

Sergio Pastor

List of Publications by Year in descending order

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135
papers

10,359
citations

34105

52
h-index

31849

101
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138
all docs

138
docs citations

138
times ranked

4841
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards a precision calculation of the effective number of neutrinos N_{eff} in the Standard Model. Part II. Neutrino decoupling in the presence of flavour oscillations and finite-temperature QED. <i>Journal of Cosmology and Astroparticle Physics</i> , 2021, 2021, 073.	5.4	111
2	Cosmological radiation density with non-standard neutrino-electron interactions. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2021, 820, 136508.	4.1	6
3	Bounds on light sterile neutrino mass and mixing from cosmology and laboratory searches. <i>Physical Review D</i> , 2021, 104, .	4.7	32
4	Active-sterile neutrino oscillations in the early Universe with the complete mixing matrix. <i>Journal of Physics: Conference Series</i> , 2020, 1468, 012005.	0.4	0
5	Neutrino clustering in the Milky Way and beyond. <i>Journal of Cosmology and Astroparticle Physics</i> , 2020, 2020, 015-015.	5.4	14
6	Thermalisation of sterile neutrinos in the early universe in the 3+1 scheme with full mixing matrix. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 014-014.	5.4	65
7	Neutrino physics with the PTOLEMY project: active neutrino properties and the light sterile case. <i>Journal of Cosmology and Astroparticle Physics</i> , 2019, 2019, 047-047.	5.4	85
8	Constraining the invisible neutrino decay with KM3NeT-ORCA. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2019, 789, 472-479.	4.1	27
9	A design for an electromagnetic filter for precision energy measurements at the tritium endpoint. <i>Progress in Particle and Nuclear Physics</i> , 2019, 106, 120-131.	14.4	24
10	Cosmological bounds on neutrino statistics. <i>Journal of Cosmology and Astroparticle Physics</i> , 2018, 2018, 050-050.	5.4	3
11	PARthENoPE reloaded. <i>Computer Physics Communications</i> , 2018, 233, 237-242.	7.5	66
12	A White Paper on keV sterile neutrino Dark Matter. <i>Journal of Cosmology and Astroparticle Physics</i> , 2017, 2017, 025-025.	5.4	256
13	Calculation of the local density of relic neutrinos. <i>Journal of Cosmology and Astroparticle Physics</i> , 2017, 2017, 034-034.	5.4	35
14	Relic neutrino decoupling with flavour oscillations revisited. <i>Journal of Cosmology and Astroparticle Physics</i> , 2016, 2016, 051-051.	5.4	245
15	Bounds on very low reheating scenarios after Planck. <i>Physical Review D</i> , 2015, 92, .	4.7	181
16	A SEARCH FOR POINT SOURCES OF EeV PHOTONS. <i>Astrophysical Journal</i> , 2014, 789, 160.	4.5	29
17	Reconstruction of inclined air showers detected with the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014, 2014, 019-019.	5.4	49
18	Probing the radio emission from air showers with polarization measurements. <i>Physical Review D</i> , 2014, 89, .	4.7	85

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19	Muons in air showers at the Pierre Auger Observatory: Measurement of atmospheric production depth. <i>Physical Review D</i> , 2014, 90, .	4.7	69
20	A TARGETED SEARCH FOR POINT SOURCES OF EeV NEUTRONS. <i>Astrophysical Journal Letters</i> , 2014, 789, L34.	8.3	14
21	Neutrino cosmology and Planck. <i>New Journal of Physics</i> , 2014, 16, 065002.	2.9	110
22	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.	4.1	6
23	Identifying clouds over the Pierre Auger Observatory using infrared satellite data. <i>Astroparticle Physics</i> , 2013, 50-52, 92-101.	4.3	8
24	Neutrino searches at the Pierre Auger Observatory. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2013, 235-236, 358-363.	0.4	0
25	Constraining the cosmic radiation density due to lepton number. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2013, 237-238, 253-255.	0.4	0
26	Ultrahigh Energy Neutrinos at the Pierre Auger Observatory. <i>Advances in High Energy Physics</i> , 2013, 2013, 1-18.	1.1	39
27	Probing interactions within the dark matter sector via extra radiation contributions. <i>Physical Review D</i> , 2013, 87, .	4.7	11
28	Techniques for measuring aerosol attenuation using the Central Laser Facility at the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2013, 8, P04009-P04009.	1.2	24
29	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.	5.4	27
30	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.	8.3	67
31	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.	5.4	34
32	Neutrino Mass from Cosmology. <i>Advances in High Energy Physics</i> , 2012, 2012, 1-34.	1.1	145
33	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.	8.3	55
34	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.	1.2	95
35	Measurement of the Proton-Air Cross Section at $\sqrt{s} = 57$ TeV at the Pierre Auger Observatory. <i>Physical Review Letters</i> , 2012, 109, 062002.	7.8	212
36	A SEARCH FOR POINT SOURCES OF EeV NEUTRONS. <i>Astrophysical Journal</i> , 2012, 760, 148.	4.5	27

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37	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.	7.7	44
38	The rapid atmospheric monitoring system of the Pierre Auger Observatory. <i>Journal of Instrumentation</i> , 2012, 7, P09001-P09001.	1.2	24
39	Constraining the cosmic radiation density due to lepton number with BBN. <i>Journal of Physics: Conference Series</i> , 2012, 375, 032004.	0.4	0
40	A search for anisotropy in the arrival directions of ultra high energy cosmic rays recorded at the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2012, 2012, 040-040.	5.4	6
41	Measurement of the cosmic ray energy spectrum using hybrid events of the Pierre Auger Observatory. <i>European Physical Journal Plus</i> , 2012, 127, 1.	2.6	34
42	Cosmological lepton asymmetry with a nonzero mixing angle θ_{13} . <i>Physical Review D</i> , 2012, 86, .	4.7	52
43	Search for signatures of magnetically-induced alignment in the arrival directions measured by the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2012, 35, 354-361.	4.3	32
44	Description of atmospheric conditions at the Pierre Auger Observatory using the Global Data Assimilation System (GDAS). <i>Astroparticle Physics</i> , 2012, 35, 591-607.	4.3	66
45	Limits on the diffuse flux of ultra-high energy neutrinos using the Pierre Auger Observatory. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2012, 662, S113-S117.	1.6	3
46	Updated BBN bounds on the cosmological lepton asymmetry for non-zero θ_{13} . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2012, 708, 1-5.	4.1	79
47	Search for ultrahigh energy neutrinos in highly inclined events at the Pierre Auger Observatory. <i>Physical Review D</i> , 2011, 84, .	4.7	51
48	Anisotropy and chemical composition of ultra-high energy cosmic rays using arrival directions measured by the Pierre Auger Observatory. <i>Journal of Cosmology and Astroparticle Physics</i> , 2011, 2011, 022-022.	5.4	9
49	The Pierre Auger Observatory scaler mode for the study of solar activity modulation of galactic cosmic rays. <i>Journal of Instrumentation</i> , 2011, 6, P01003-P01003.	1.2	16
50	The Lateral Trigger Probability function for the Ultra-High Energy Cosmic Ray showers detected by the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2011, 35, 266-276.	4.3	16
51	Light neutrinos in cosmology. <i>Physics of Particles and Nuclei</i> , 2011, 42, 628-640.	0.7	1
52	The exposure of the hybrid detector of the Pierre Auger Observatory. <i>Astroparticle Physics</i> , 2011, 34, 368-381.	4.3	54
53	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.	4.3	73
54	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.	1.6	52

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55	Constraining the cosmic radiation density due to lepton number with Big Bang Nucleosynthesis. Journal of Cosmology and Astroparticle Physics, 2011, 2011, 035-035.	5.4	52
56	The effect of the geomagnetic field on cosmic ray energy estimates and large scale anisotropy searches on data from the Pierre Auger Observatory. Journal of Cosmology and Astroparticle Physics, 2011, 2011, 022-022.	5.4	24
57	Relic density of neutrinos with primordial asymmetries. Journal of Physics: Conference Series, 2010, 203, 012053.	0.4	0
58	A study of the effect of molecular and aerosol conditions in the atmosphere on air fluorescence measurements at the Pierre Auger Observatory. Astroparticle Physics, 2010, 33, 108-129.	4.3	84
59	Update on the correlation of the highest energy cosmic rays with nearby extragalactic matter. Astroparticle Physics, 2010, 34, 314-326.	4.3	270
60	Trigger and aperture of the surface detector array of the Pierre Auger Observatory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 613, 29-39.	1.6	151
61	Measurement of the energy spectrum of cosmic rays above 1018 eV using the Pierre Auger Observatory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2010, 685, 239-246.	4.1	357
62	The fluorescence detector of the Pierre Auger Observatory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 620, 227-251.	1.6	275
63	The MU-RAY project: Summary of the round-table discussions. Earth, Planets and Space, 2010, 62, 145-151.	2.5	5
64	High energy neutrinos to see inside the Earth. Earth, Planets and Space, 2010, 62, 205-209.	2.5	0
65	Simulations of neutrino and muon interaction in matter for geological structures radiography. Earth, Planets and Space, 2010, 62, 187-193.	2.5	0
66	Studies on neutrino Earth radiography. Earth, Planets and Space, 2010, 62, 211-214.	2.5	2
67	Measurement of the Depth of Maximum of Extensive Air Showers above 10^{18} eV. Physical Review Letters, 2010, 104, 091101.	7.8	429
68	On the full Boltzmann equations for leptogenesis. Journal of Cosmology and Astroparticle Physics, 2009, 2009, 035-035.	5.4	16
69	Sensitivity on earth core and mantle densities using atmospheric neutrinos. Journal of Cosmology and Astroparticle Physics, 2009, 2009, 030-030.	5.4	14
70	Collective flavor transitions of supernova neutrinos. Nuclear Physics, Section B, Proceedings Supplements, 2009, 188, 101-106.	0.4	2
71	Decoherence in supernova neutrino transformations suppressed by deleptonization. Nuclear Physics, Section B, Proceedings Supplements, 2009, 188, 121-123.	0.4	1
72	Session I: Probing low energy and mass scales. Nuclear Physics, Section B, Proceedings Supplements, 2009, 188, 371-376.	0.4	0

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73	High energy neutrinos to see inside the Earth. Nuclear Physics, Section B, Proceedings Supplements, 2009, 190, 150-155.	0.4	2
74	Atmospheric effects on extensive air showers observed with the surface detector of the Pierre Auger observatory. Astroparticle Physics, 2009, 32, 89-99.	4.3	43
75	Upper limit on the cosmic-ray photon fraction at EeV energies from the Pierre Auger Observatory. Astroparticle Physics, 2009, 31, 399-406.	4.3	117
76	Limit on the diffuse flux of ultrahigh energy tau neutrinos with the surface detector of the Pierre Auger Observatory. Physical Review D, 2009, 79, .	4.7	99
77	Relic Density of Neutrinos with Primordial Asymmetries. Physical Review Letters, 2009, 102, 241302.	7.8	55
78	Model independent constraints on mass-varying neutrino scenarios. Physical Review D, 2009, 80, .	4.7	18
79	Correlation of the highest-energy cosmic rays with the positions of nearby active galactic nuclei. Astroparticle Physics, 2008, 29, 188-204.	4.3	305
80	Upper limit on the cosmic-ray photon flux above 10 ¹⁹ eV using the surface detector of the Pierre Auger Observatory. Astroparticle Physics, 2008, 29, 243-256.	4.3	161
81	Mu-tau neutrino refraction and collective three-flavor transformations in supernovae. Physical Review D, 2008, 77, .	4.7	54
82	Role of dense matter in collective supernova neutrino transformations. Physical Review D, 2008, 78, .	4.7	137
83	Disentangling neutrino-nucleon cross section and high energy neutrino flux with a km^3 telescope. Physical Review D, 2008, 77, .	4.7	23
84	Observation of the Suppression of the Flux of Cosmic Rays above 4×10^{19} eV. Physical Review Letters, 2008, 101, 061101.	7.8	500
85	Upper Limit on the Diffuse Flux of Ultrahigh Energy Tau Neutrinos from the Pierre Auger Observatory. Physical Review Letters, 2008, 100, 211101.	7.8	141
86	Decoherence in supernova neutrino transformations suppressed by deleptonization. Journal of Physics: Conference Series, 2008, 136, 042073.	0.4	0
87	Mu-tau neutrino refraction and collective three-flavour transformations in supernovae. Journal of Physics: Conference Series, 2008, 136, 042076.	0.4	1
88	Correlation of the Highest-Energy Cosmic Rays with Nearby Extragalactic Objects. Science, 2007, 318, 938-943.	12.6	647
89	Ultrahigh energy neutrinos in the Mediterranean: detecting $\hat{1}\hat{2}\hat{1}$, and $\hat{1}\hat{2}\hat{1}\hat{4}$ with a km^3 telescope. Journal of Cosmology and Astroparticle Physics, 2007, 2007, 007-007.	5.4	10
90	Neutrino Physics and Cosmology. Les Houches Summer School Proceedings, 2007, , 411-436.	0.2	0

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91	Cosmology and neutrino masses. AIP Conference Proceedings, 2007, , .	0.4	0
92	Decoherence in supernova neutrino transformations suppressed by deleptonization. Physical Review D, 2007, 76, .	4.7	123
93	Precision cosmology and neutrinos. Nuclear Physics, Section B, Proceedings Supplements, 2007, 168, 17-22.	0.4	0
94	Probing neutrino masses with CMB lensing extraction. Physical Review D, 2006, 73, .	4.7	112
95	Effects of non-standard neutrino-electron interactions on relic neutrino decoupling. Nuclear Physics B, 2006, 756, 100-116.	2.5	56
96	The aperture for UHE tau neutrinos of the Auger fluorescence detector using a Digital Elevation Map. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2006, 634, 137-142.	4.1	24
97	Massive neutrinos and cosmology. Physics Reports, 2006, 429, 307-379.	25.6	796
98	Neutrino masses and cosmology: current bounds and future sensitivities. Nuclear Physics, Section B, Proceedings Supplements, 2005, 149, 137-139.	0.4	1
99	Do observations prove that cosmological neutrinos are thermally distributed?. Physical Review D, 2005, 71, .	4.7	31
100	Relic neutrino decoupling including flavour oscillations. Nuclear Physics B, 2005, 729, 221-234.	2.5	597
101	Probing neutrino masses with future galaxy redshift surveys. Physical Review D, 2004, 70, .	4.7	88
102	Current cosmological bounds on neutrino masses and relativistic relics. Physical Review D, 2004, 69, .	4.7	93
103	Neutrino oscillations in dense neutrino media. Nuclear Physics, Section B, Proceedings Supplements, 2003, 118, 503.	0.4	0
104	Measuring the cosmological background of relativistic particles with the Wilkinson Microwave Anisotropy Probe. Physical Review D, 2003, 67, .	4.7	55
105	Extraction of cluster parameters with future Sunyaev-Zel'dovich observations. Journal of Cosmology and Astroparticle Physics, 2003, 2003, 007-007.	5.4	11
106	Physics of synchronized neutrino oscillations caused by self-interactions. Physical Review D, 2002, 65, .	4.7	132
107	Neutrino oscillations in dense neutrino media. AIP Conference Proceedings, 2002, , .	0.4	0
108	Flavor Oscillations in the Supernova Hot Bubble Region: Nonlinear Effects of Neutrino Background. Physical Review Letters, 2002, 89, 191101.	7.8	127

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109	Cosmological bounds on neutrino degeneracy improved by flavor oscillations. Nuclear Physics B, 2002, 632, 363-382.	2.5	305
110	Constraining the window on sterile neutrinos as warm dark matter. Monthly Notices of the Royal Astronomical Society, 2002, 333, 544-546.	4.4	114
111	A precision calculation of the effective number of cosmological neutrinos. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 534, 8-16.	4.1	187
112	First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Astrophysical Journal, 2002, 573, L69-L71.	4.5	38
113	Spectral Distortion of Cosmic Microwave Background Radiation by Scattering on Hot Electrons: Exact Calculations. Astrophysical Journal, 2001, 554, 74-84.	4.5	47
114	Cosmological measurement of neutrino mass in the presence of leptonic asymmetry. Nuclear Physics, Section B, Proceedings Supplements, 2001, 95, 51-54.	0.4	0
115	Cosmological implications of a relic neutrino asymmetry. Nuclear Physics, Section B, Proceedings Supplements, 2001, 100, 366-368.	0.4	0
116	Bose-Einstein condensation at reheating. Physical Review D, 2001, 64, .	4.7	7
117	Neutrino oscillations in the early universe: how can large lepton asymmetry be generated?. Astroparticle Physics, 2000, 14, 79-90.	4.3	39
118	Cosmology of the Randall-Sundrum model after dilaton stabilization. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 489, 411-419.	4.1	31
119	A potential test of the CP properties and Majorana nature of neutrinos. Nuclear Physics, Section B, Proceedings Supplements, 2000, 87, 330-332.	0.4	1
120	Relic neutrino asymmetry, CMB and large-scale structure. Nuclear Physics, Section B, Proceedings Supplements, 2000, 81, 47-51.	0.4	4
121	Cosmological measurement of neutrino mass in the presence of leptonic asymmetry. Physical Review D, 2000, 62, .	4.7	17
122	Non equilibrium spectra of degenerate relic neutrinos. Nuclear Physics B, 2000, 590, 539-561.	2.5	71
123	A potential test of the CP properties and Majorana nature of neutrinos. Nuclear Physics B, 2000, 566, 92-102.	2.5	6
124	Lepton flavour violation in a left-right symmetric model. Journal of High Energy Physics, 1999, 1999, 012-012.	4.7	1
125	Cosmological implications of a relic neutrino asymmetry. Physical Review D, 1999, 60, .	4.7	83
126	Low-energy anti-neutrinos from the sun. Nuclear Physics, Section B, Proceedings Supplements, 1999, 70, 348-350.	0.4	3

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127	Unstable massive tau-neutrinos and primordial nucleosynthesis. Nuclear Physics B, 1999, 548, 385-407.	2.5	20
128	Low-energy anti-neutrinos from the Sun. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1998, 423, 118-125.	4.1	17
129	Neutrino magnetic moments and low-energy solar neutrino-electron scattering experiments. Physical Review D, 1998, 59, .	4.7	10
130	Primordial nucleosynthesis, majorons and heavy tau neutrinos. Nuclear Physics B, 1997, 496, 24-40.	2.5	25
131	Relaxing nucleosynthesis constraints on $\hat{m}_{1/2}$ mass. Surveys in High Energy Physics, 1997, 10, 417-420.	0.6	0
132	Nucleosynthesis constraints on heavy $\tilde{\nu}_\tau$, in the presence of annihilations to majorons. Nuclear Physics, Section B, Proceedings Supplements, 1996, 48, 266-268.	0.4	0
133	Bounds on neutrino transition magnetic moments in random magnetic fields. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 369, 301-307.	4.1	20
134	An improved cosmological bound on the tau-neutrino mass. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 383, 193-198.	4.1	16
135	New supernova constraints on active-sterile neutrino conversions. Astroparticle Physics, 1995, 3, 87-94.	4.3	13