Roberto Battiston

List of Publications by Year
in descending order

81 papers	8,308 citations	101543 36 h-index	69250 77 g-index
83 all docs	83 docs citations	83 times ranked	7602 citing authors

#	Article	IF	Citations
1	First Result from the Alpha Magnetic Spectrometer on the International Space Station: Precision Measurement of the Positron Fraction in Primary Cosmic Rays of 0.5â€“350 GeV. Physical Review Letters, 2013, 110, 141102.	7.8	852
2	Precision Measurement of the Proton Flux in Primary Cosmic Rays from Rigidity 1ÂGV to 1.8 TV with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2015, 114, 171103.	7.8	655
3	Observation of single isolated electrons of high transverse momentum in events with missing transverse energy at the CERN p collider. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1983, 122, 476-485.	4.1	486
4	Evidence for Z0â†’e+eâˆ’ at the CERN p collider. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1983, 129, 130-140.	4.1	450
5	High Statistics Measurement of the Positron Fraction in Primary Cosmic Rays of 0.5â€“500ÂGeV with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2014, 113, 121101.	7.8	428
6	Electron and Positron Fluxes in Primary Cosmic Rays Measured with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2014, 113, 121102.	7.8	397
7	Precision Measurement of the Helium Flux in Primary Cosmic Rays of Rigidities 1.9ÂGV to 3ÂTV with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2015, 115, 211101.	7.8	369
8	The Alpha Magnetic Spectrometer (AMS) on the International Space Station: Part I â€“ results from the test flight on the space shuttle. Physics Reports, 2002, 366, 331-405.	25.6	366
9	Antiproton Flux, Antiproton-to-Proton Flux Ratio, and Properties of Elementary Particle Fluxes in Primary Cosmic Rays Measured with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2016, 117, 091103.	7.8	295
10	Cosmic-ray positron fraction measurement from 1 to 30 GeV with AMS-01. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2007, 646, 145-154.	4.1	269
11	Cosmic protons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 490, 27-35.	4.1	242
12	Precision Measurement of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo stretchy="false">(</mml:mo><mml:msup><mml:mi>e</mml:mi><mml:mo>+</mml:mo></mml:msup><mml:mo>+</mml:mo><mml:msu Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2014, 113, 221102.	7.8	238
13	Precision Measurement of the Boron to Carbon Flux Ratio in Cosmic Rays from 1.9ÂGV to 2.6ÂTV with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2016, 117, 231102.	7.8	236
14	Leptons in near earth orbit. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 484, 10-22.	4.1	224
15	Observation of the Identical Rigidity Dependence of He, C, and O Cosmic Rays at High Rigidities by the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2017, 119, 251101.	7.8	204
16	The L3 silicon microvertex detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 351, 300-312.	1.6	199
17	Towards Understanding the Origin of Cosmic-Ray Positrons. Physical Review Letters, 2019, 122, 041102.	7.8	174
18	Observation of New Properties of Secondary Cosmic Rays Lithium, Beryllium, and Boron by the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2018, 120, 021101.	7.8	172

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19	The Alpha Magnetic Spectrometer (AMS) on the international space station: Part II â€”ÂResults from the first seven years. Physics Reports, 2021, 894, 1-116.	25.6	160
20	An antimatter spectrometer in space. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 350, 351-367.	1.6	144
21	High-Efficiency Volume Reflection of an Ultrarelativistic Proton Beam with a Bent Silicon Crystal. Physical Review Letters, 2007, 98, 154801.	7.8	123
22	Search for antihelium in cosmic rays. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 461, 387-396.	4.1	114
23	Characterization of the First Prototypes of Silicon Photomultiplier Fabricated at ITC-irst. IEEE Transactions on Nuclear Science, 2007, 54, 236-244.	2.0	112
24	Towards Understanding the Origin of Cosmic-Ray Electrons. Physical Review Letters, 2019, 122, 101101.	7.8	109
25	Observation of Fine Time Structures in the Cosmic Proton and Helium Fluxes with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2018, 121, 051101.	7.8	98
26	Upgrade of the Alpha Magnetic Spectrometer (AMS-02) for long term operation on the International Space Station (ISS). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 654, 639-648.	1.6	95
27	The antimatter spectrometer (AMS-02): A particle physics detector in space. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 588, 227-234.	1.6	75
28	The internal alignment and position resolution of the AMS-02 silicon tracker determined with cosmic-ray muons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 613, 207-217.	1.6	73
29	Precision Measurement of Cosmic-Ray Nitrogen and its Primary and Secondary Components with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2018, 121, 051103.	7.8	68
30	Observation of Complex Time Structures in the Cosmic-Ray Electron and Positron Fluxes with the Alpha Magnetic Spectrometer on the International Space Station. Physical Review Letters, 2018, 121, 051102.	7.8	62
31	Geospace perturbations induced by the Earth: The state of the art and future trends. Physics and Chemistry of the Earth, 2015, 85-86, 17-33.	2.9	56
32	Deflection of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>400</mml:mn><mml:mtext>â€‰</mml:mtext><mml:mtext>â€‰</mml:mtext><mml:mi>GeV</mml:mi><r beam with bent silicon crystals at the CERN Super Proton Synchrotron. Physical Review Special Topics: Accelerators and Beams, 2008, 11, .	1.8	50
33	RELATIVE COMPOSITION AND ENERGY SPECTRA OF LIGHT NUCLEI IN COSMIC RAYS: RESULTS FROM AMS-01. Astrophysical Journal, 2010, 724, 329-340.	4.5	50
34	The alpha magnetic spectrometer silicon tracker: Performance results with protons and helium nuclei. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2008, 593, 376-398.	1.6	45
35	Properties of Cosmic Helium Isotopes Measured by the Alpha Magnetic Spectrometer. Physical Review Letters, 2019, 123, 181102.	7.8	40
36	Towards advancing the earthquake forecasting by machine learning of satellite data. Science of the Total Environment, 2021, 771, 145256.	8.0	38

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37	The HEPD particle detector of the CSES satellite mission for investigating seismo-associated perturbations of the Van Allen belts. Science China Technological Sciences, 2018, 61, 643-652.	4.0	37
38	Magnetosphericâ€“Ionosphericâ€“Lithospheric Coupling Model. 1: Observations during the 5 August 2018 Bayan Earthquake. Remote Sensing, 2020, 12, 3299.	4.0	37
39	Scientific Goals and In-orbit Performance of the High-energy Particle Detector on Board the CSES. Astrophysical Journal, Supplement Series, 2019, 243, 16.	7.7	33
40	Double volume reflection of a proton beam by a sequence of two bent crystals. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 658, 109-111.	4.1	25
41	Novel Silicon Photomultipliers for PET Applications. IEEE Transactions on Nuclear Science, 2008, 55, 877-881.	2.0	25
42	Apparatus to study crystal channeling and volume reflection phenomena at the SPS H8 beamline. Review of Scientific Instruments, 2008, 79, 023303.	1.3	23
43	Seismo-ionospheric anomalies in ionospheric TEC and plasma density before the 17ÂJulyÂ2006 <i>M</i>7.7 south of Java earthquake. Annales Geophysicae, 2017, 35, 589-598.	1.6	22
44	High-energy protons, electrons, and positrons trapped in Earth's radiation belts. Space Weather, 2004, 2, n/a-n/a.	3.7	20
45	First evidence for correlations between electron fluxes measured by NOAA-POES satellites and large seismic events. Nuclear Physics, Section B, Proceedings Supplements, 2013, 243-244, 249-257.	0.4	20
46	A mathematical model of lithosphereâ€“atmosphere coupling for seismic events. Scientific Reports, 2021, 11, 8682.	3.3	19
47	Galactic Cosmic-Ray Hydrogen Spectra in the 40â€“250 MeV Range Measured by the High-energy Particle Detector (HEPD) on board the CSES-01 Satellite between 2018 and 2020. Astrophysical Journal, 2020, 901, 8.	4.5	19
48	Superconducting Magnets for Astroparticle Shielding in Interplanetary Manned Missions. IEEE Transactions on Applied Superconductivity, 2013, 23, 4101604-4101604.	1.7	18
49	A silicon microstrip tracker in space: Experience with the AMS silicon tracker on STS-91. Il Nuovo Cimento A, 1999, 112, 1325-1343.	0.1	18
50	A Magnesium Diboride Superconducting Toroid for Astroparticle Shielding. IEEE Transactions on Applied Superconductivity, 2014, 24, 1-4.	1.7	16
51	Leptons with energy >200 MeV trapped near the South Atlantic Anomaly. Journal of Geophysical Research, 2003, 108, .	3.3	15
52	Beam test calibrations of the HEPD detector on board the China Seismo-Electromagnetic Satellite. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 974, 164170.	1.6	15
53	Identification of Electromagnetic Pre-Earthquake Perturbations from the DEMETER Data by Machine Learning. Remote Sensing, 2020, 12, 3643.	4.0	14
54	The August 2018 Geomagnetic Storm Observed by the High-Energy Particle Detector on Board the CSES-01 Satellite. Applied Sciences (Switzerland), 2021, 11, 5680.	2.5	13

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55	Conceptual design of a high temperature superconducting magnet for a particle physics experiment in space. Superconductor Science and Technology, 2020, 33, 044012.	3.5	12
56	Can an impulsive variation of the solar wind plasma pressure trigger a plasma bubble? A case study based on CSES, Swarm and THEMIS data. Advances in Space Research, 2021, 67, 35-45.	2.6	12
57	Pre-Earthquake Ionospheric Perturbation Identification Using CSES Data via Transfer Learning. Frontiers in Environmental Science, 2021, 9, .	3.3	11
58	Total dose test of commercial off-the-shelf components to be used in power supply for space experiments. IEEE Transactions on Nuclear Science, 2000, 47, 1879-1884.	2.0	10
59	Precision measurements of cosmic-ray nuclei with a novel monolithic silicon spectrometer on the International Space Station. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1000, 164566.	4.9	10
60	Control and data acquisition software of the highâ€energy particle detector on board the China Seismoâ€Electromagnetic Satellite space mission. Software - Practice and Experience, 2021, 51, 1459-1480.	3.6	10
61	Protons with kinetic energy E > 70 MeV trapped in the Earth's radiation belts. Journal of Geophysical Research, 2004, 109, .	3.3	9
62	High precision particle astrophysics as a new window on the universe with an Antimatter Large Acceptance Detector In Orbit (ALADInO). Experimental Astronomy, 2021, 51, 1299-1330.	3.7	9
63	The electronics of the High-Energy Particle Detector on board the CSES-01 satellite. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1013, 165639.	1.6	9
64	The Anti Matter Spectrometer (AMS-02): a Particle Physics Detector In Space. Nuclear Physics, Section B, Proceedings Supplements, 2007, 166, 19-29.	0.4	8
65	A study of NOAA particle flux sensitivity to solar activity and strategies to search for correlations among satellite data and earthquake phenomena. International Journal of Remote Sensing, 2012, 33, 4796-4814.	2.9	8
66	New results on protons inside the South Atlantic Anomaly, at energies between 40 and 250ÂMeV in the period 2018â€“2020, from the CSES-01 satellite mission. Physical Review D, 2022, 105, .	4.7	7
67	Design of an Antimatter Large Acceptance Detector In Orbit (ALADInO). Instruments, 2022, 6, 19.	1.8	6
68	Possible ion-acoustic soliton formation in the ionospheric perturbations observed on DEMETER before the 2007 Puâ€™er earthquake. Earthquake Science, 2009, 22, 257-262.	0.9	4
69	High precision cosmic ray physics with AMS-02 on the International Space Station. Rivista Del Nuovo Cimento, 2020, 43, 319-384.	5.7	4
70	Trapped Proton Fluxes Estimation Inside the South Atlantic Anomaly Using the NASA AE9/AP9/SPM Radiation Models along the China Seismo-Electromagnetic Satellite Orbit. Applied Sciences (Switzerland), 2021, 11, 3465.	2.5	4
71	On the Magnetosphereâ€Ionosphere Coupling During the May 2021 Geomagnetic Storm. Space Weather, 2022, 20, .	3.7	4
72	A new method to study the time correlation between Van Allen Belt electrons and earthquakes. International Journal of Remote Sensing, 2016, 37, 5304-5319.	2.9	3

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73	Aiglon, a magnetic spectrometer for low energy electrons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 617, 467-470.	1.6	2
74	On the Geomagnetic Field Line Resonance Eigenfrequency Variations during Seismic Event. Remote Sensing, 2021, 13, 2839.	4.0	2
75	Are the Significant Ionospheric Anomalies Associated with the 2007 Great Deep-Focus Undersea Jakartaâ€“Java Earthquake?. Remote Sensing, 2022, 14, 2211.	4.0	2
76	Space Borne Experiments. Landolt-Bâˆšâˆ‚rnstein - Group I Elementary Particles, Nuclei and Atoms, 2011, , 115-146.	0.2	1
77	Space-Weather capabilities and preliminary results of the High Energy Particle Detector (HEPD) on-board the CSES-01 satellite. , 2019, , .		1
78	Thermal and electrical characterization of silicon photomultiplier. , 2007, , .		0
79	Cosmic ray physics in space: from fundamental physics to applications. Rendiconti Lincei, 2014, 25, 97-105.	2.2	0
80	What next in fundamental physics in space. Annalen Der Physik, 2016, 528, 55-61.	2.4	0
81	Deep learning based event reconstruction for the Limadou High-Energy Particle Detector. Physical Review D, 2022, 105, .	4.7	0