Hernán Asorey

Particle and Radiation Detection Lab
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Personal Information

Born in Quilmes, Buenos Aires, Argentina, on February 05th, 1974 (38 years old)
Argentinian, married, two daughters.

Current Positions

Permanent Position at Laboratorio de Detección de Partículas y Radiación, Gerencia de Tecnología e Investigación en Altas Energías (Technology and Research in High Energy Physics Department), Bariloche Atomic Centre, National Commission of Atomic Energy (CNEA)

Senior Teaching Assistant (Jefe de Trabajos Prácticos) at Physics Department of Rio Negro National University (UNRN)

Teaching Assistant at Physics Department of Instituto Balseiro, Cuyo National University (UNC)

Education

2012 Doctor in Physics (Ph.D.)
Institution: Particles and Fields Group, Bariloche Atomic Centre - Instituto Balseiro, CNEA-UNC
Thesis: The Water Cherenkov Detectors of the Pierre Auger Observatory and their Application to the Study of Background Radiation
Advisor: Dr. Ingomar Allekotte

2005 Master in Science, Physics
Orientation: Fields and particle physics
Institution: Particles and Fields Group, Instituto Balseiro, Bariloche Atomic Centre (CNEA-UNC)
Thesis: Event Reconstruction with the Surface Detectors of the Pierre Auger Observatory
Advisor: Dr. Ingomar Allekotte

2004 "Licenciado" in Physics
Institution: Instituto Balseiro, Bariloche Atomic Centre (CNEA-UNC)

Previous positions

2006-2012 Ph.D. student, Instituto Balseiro (UNC).
2004-2005 Master in Science, Instituto Balseiro (UNC).
2002-2004 Physics undergraduate student, Instituto Balseiro (UNC).
1994-1995 Teaching assistant at Physics Department, Engineering Faculty, University of Buenos Aires.
1992-1996 Industrial Engineering (first four of five years). University of Buenos Aires.
1992-2001 AIM S.A., metal mechanical industry, R+D department on industrial projects, Buenos Aires, Argentina.

Honours, Awards & Fellowships

2011 Balseiro Foundation "Best Teacher Award" for outstanding teaching skills at Instituto Balseiro.
2008-2010 Fellowship awarded by the National Council of Scientific and Technical Investigations (CONICET) to obtain a Ph.D. degree.
2006-2007 Fellowship awarded by the Balseiro Foundation and the National Commission of Atomic Energy (FUNC-CNEA).
2005 Fellowship awarded by the National Commission of Atomic Energy (CNEA) to obtain a Master degree in Physics.
2002-2004 Fellowship awarded by the National Commission of Atomic Energy (CNEA) to obtain a Master to study "Licenciatura en Física" at Instituto Balseiro.

Research & Teaching Activities

Since I have earned my master degree in December 2005, I have been involved in the following projects:

Pierre Auger Observatory

See www.auger.org

Member of the Pierre Auger Collaboration since 2006

Ultra High-Energy Cosmic Rays Physics

Data analysis of the Surface Detector

Development of the reconstruction event chain of the Surface Detector

Development and applications of the low energy modes (scaler and histogram modes) of the surface detectors of the Pierre Auger Observatory, for the study of transient events (Gamma Ray Bursts and Forbush events), and short and long term modulation of the galactic cosmic rays flux due to solar activity

CORSIKA and detector simulations, oriented to determine the water-Cherenkov response working in the low energy modes

Data analysis of the weather monitoring system of the Pierre Auger Observatory

Large Aperture Grb Observatory (LAGO)

Declared of Scientific, Academic and Social interest by the Honourable House of Representatives of the Rio Negro Province, Dec. 42/2010.
See http://fisica.cab.cnea.gov.ar/particulas/laboratorio/lago

Country Representative - Argentina - since 2012

Member of the LAGO International Collaboration since 2006

Simulations and data analysis for the detection of transient events (GRB and Forbush events), background radiation and atmospheric physics.

Research, development and building of three water-Cherenkov detector prototypes for the LAGO project at Bariloche Atomic Centre. One of them will be installed at the Antarctic Peninsula.

Design and coordination of the experiment "Measurement of Muon Lifetime in Water", done by undergraduate students at Instituto Balseiro.

Cherenkov Telescope Array (CTA)

See www.cta-observatory.org

Member of the CTA consortium since 2010

Research and development of the autonomous station for control and data acquisition of the weather station and sky quality meter installed in San Antonio de los Cobres, Argentina, one of the site candidates for the CTA observatory.

ANDES Underground Laboratory

See www.andeslab.org

Estimation and measurements of the expected backgrounds at the ANDES underground lab due to natural radioactivity and high energy atmospheric muons

Teaching

See www.ib.edu.ar and www.unrn.edu.ar

Teaching assistant, Experimental Physics III and Introduction to nuclear and particle physics courses, Instituto Balseiro (UNC)

Senior teaching assistant, Physics I (introductory physics) course, UNRN.

Selected Works

During the development of my work within the Pierre Auger Observatory, I have been acting as the Physics coordinator and responsible of one of the full author list papers of the Pierre Auger Collaboration (The Pierre Auger Collaboration, JINST **6** P01003–P01020 (2011)), using the surface detector in a novel way, developed during my Ph.D. thesis, as a tool to study transient solar phenomena and heliospheric modulation of galactic cosmic rays flux.
This list is a personal selection of the works I have been directly involved:

2012 22. H. Asorey and A. López Dávalos, *Fermi Problem: Power developed at the eruption of the Puyehue-Cordón Caulle volcanic system in June 2011*, Amer. Jour. Phys., *submitted*, (2012). arXiv:1109.1165v1[physics.ed-ph]. Selected as the best arXiv paper of September 2011 by the M.I.T. Technology Review Physics arXiv Blog, Sep. 2011.

2012 21. S. Dasso and H. Asorey, for the Pierre Auger Collaboration, *The scaler mode in the Pierre Auger Observatory to study heliospheric modulation of cosmic rays* , Adv. Space Res. **49** (11), 1563–1569 (2012)

2012 20. H. Asorey, M. Arribere, X. Bertou, M. Gómez Berisso, F. Sánchez, *Expected Backgrounds at the ANDES Underground Laboratory* plenary talk given at the Third International Workshop for the Design of the ANDES Underground Laboratory, Valparaiso, Chile, 11–12 Jan 2012.

2011 19. The Pierre Auger Collaboration, *The Pierre Auger Observatory Scaler Mode for the Study of the Modulation of Galactic Cosmic Rays due to Solar Activity*, JINST **6** P01003–P01020 (2011). *__Coordinator__

2011 18. The Pierre Auger Collaboration, *The Lateral Trigger Probability function for UHE Cosmic Rays Showers detected by the Pierre Auger Observatory*, Astropart. Phys. **35** (5), 266–276 (2011)

2011 17. I. Allekotte, H. Arnaldi, H. Asorey, X. Bertou, M. Gómez Berisso, M. Sofo Haro, *Development of ultra-fast and ultra low power consumption electronics in the Bariloche Particle and Radiation Detection Laboratory*, poster presentation in the 96th National Reunion SUF-AFA2011 of the Argentinian Physics Association, Montevideo, Uruguay, 20–23 Sept 2011.

2011 16. H. Asorey[Pierre Auger Collaboration], *Low energy radiation measurements with the water Cherenkov detector array of the Pierre Auger Observatory*, in Proc. 32 International Cosmic Ray Conference, vol. 11 462–465, Beijing, China, 11–18 Ago 2011

2011 15. The Pierre Auger Collaboration, *Search for First Harmonic Modulation in the Right Ascension Distribution of Cosmic Rays Detected at the Pierre Auger Observatory*, Astropart. Phys. **34** 627–639 (2011)

2010 14. J. Blümer and The Pierre Auger Collaboration, *The Northern Site of the Pierre Auger Observatory*, Journal of Physics **12** (3) 035001

2010 13. The Pierre Auger Collaboration, *Measurement of the energy spectrum of cosmic rays above 10^{18} eV using the Pierre Auger Observatory*, Phys. Lett. **B685** 239–246 (2010), arXiv:1002.1975v1[astro-ph.HE]

2010 12. The Pierre Auger Collaboration, *Trigger and Aperture of the Surface Detector Array of the Pierre Auger Observatory*, NIM **A613** 29–39, (2010)

2010 11. H. Asorey[LAGO Collaboration], *The Large Aperture Gamma Ray Burst Observatory (LAGO)*, plenary talk in the 3rd International Workshop of High Energy Physics in the LHC Era HEP2010, Valparaiso, Chile, 4–8 Jan 2010.

2009 10. H. Asorey[Pierre Auger Collaboration], *Cosmic Ray Solar Modulation Studies at the Pierre Auger Observatory*, in Proc. 31th International Cosmic Ray Conference, Lodz, Poland, 8–15 Jul 2009.

2009 9. The Pierre Auger Collaboration, *Atmospheric effects on extensive air showers observed with the Surface Detector of the Pierre Auger Observatory*, Astropart. Phys. **32**, 89–99, (2009), arXiv:0906.5497v2[astro-ph.IM]

2008 8. The Pierre Auger Collaboration, *Observation of the Suppression of the Flux of Cosmic Rays above* 4×10^{19} *eV.*, PRL **101** 061101 (2008)

2008 7. The Pierre Auger Collaboration, *Upper limit on the cosmic-ray photon flux above* 10^{19} *eV using the surface detector of the Pierre Auger Observatory.*, Astropart. Phys. **29** 243–256 (2008)

2008 6. The Pierre Auger Collaboration, *Correlation of the highest-energy cosmic rays with the positions of nearby active galactic nuclei.*, Astropart. Phys. **29** 188–204 (2008)

2007 5. The Pierre Auger Collaboration, *Correlation of the highest energy cosmic rays with nearby extragalactic objects.*, Science **318** 939–943 (2007)

2008 4. D. Allard *et* al. [LAGO Collaboration], *Use of water-Cherenkov detectors to detect Gamma Ray Bursts at the Large Aperture GRB Observatory (LAGO)*, NIM **A595** 70–72 (2008)

2007 3. D. Allard *et* al. [LAGO Collaboration], *Looking for the high energy component of GRBs at the Large Aperture GRB Observatory*, in Proc. 30$^{\text{th}}$ International Cosmic Ray Conference, Mérida, Mexico, 3-11 Jul 2007.

2007 2. The Pierre Auger Collaboration, *Anisotropy studies around the galactic centre at EeV energies with the Auger Observatory.*, Astropart. Phys. **27** 244–253 (2007)

2006 1. D. Allard *et* al. [LAGO Collaboration], *The Large Aperture GRB aperture*, in Proc. of the Observational Astronomy in Argentina Workshop, Buenos Aires.

Complete list of Journal papers

2012 42. The Pierre Auger Collaboration, *Ultra-High Energy Neutrinos at the Pierre Auger Observatory*, AHEP, in press (2012)

2012 41. The Pierre Auger Collaboration, *Constraints on the origin of cosmic rays above* 10^{18} *eV from large scale anisotropy searches in data of the Pierre Auger Observatory*, ApJL, in press (2012)

2012 40. The Pierre Auger Collaboration, *Large scale distribution of arrival directions of cosmic rays detected above* 10^{18} *eV at the Pierre Auger Observatory*, ApJS **203** (2) 34 (2012)

2012 39. The Pierre Auger Collaboration, *A Search for Point Sources of EeV Neutrons*, ApJ **760** (2) 148–159 (2012)

2012 38. The Pierre Auger Collaboration, *Results of a self-triggered prototype system for radio-detection of extensive air showers at the Pierre Auger Observatory*, JINST **7** P11023–P11051 (2012)

2012 37. The Pierre Auger Collaboration, *Antennas for the detection of radio emission pulses from cosmic-ray induced air showers at the Pierre Auger Observatory*, JINST **7** P10011–P10022 (2012)

2012 36. The Pierre Auger Collaboration, *The rapid atmospheric monitoring system of the Pierre Auger Observatory*, JINST 7 P09001–P09014 (2012)

2012 35. The Pierre Auger Collaboration, *Measurement of the Proton-Air Cross Section at $\sqrt{s} = 57$ TeV with the Pierre Auger Observatory*, PRL **109** 062002–062011 (2012)

2012 34. The Pierre Auger Collaboration, *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*, ApJ **755** (1) L4 (2012)

2012 33. The Pierre Auger Collaboration, *A Search for Anisotropy in the Arrival Directions of Ultra High Energy Cosmic Rays recorded at the Pierre Auger Observatory*, JCAP **04** (040), 1–13 (2012)

2012 32. H. Asorey, J. Castro and A. López Dávalos, *Simple derivation of the hodograph for the Kepler problem, submitted*, (2012)

2012 31. H. Asorey and A. López Dávalos, *Fermi Problem: Power developed at the eruption of the Puyehue-Cordón Caulle volcanic system in June 2011*, Amer. Jour. Phys., *submitted*, (2012) arXiv:1109.1165v1[physics.ed-ph]

2012 30. S. Dasso and H. Asorey, for the Pierre Auger Collaboration, *The scaler mode in the Pierre Auger Observatory to study heliospheric modulation of cosmic rays* , Adv. Space Res. **49** (11), 1563–1569 (2012)

2012 29. The CTA Consortium, *Design concepts for the Cherenkov Telescope Array CTA: an advanced facility for ground-based high-energy gamma-ray astronomy*, Exper. Astron. **32** (3), 193–316 (2012)

2012 28. The Pierre Auger Collaboration, *Description of atmospheric conditions at the Pierre Auger Observatory using the Global Data Assimilation System (GDAS)*, Astropart. Phys. **35** (9), 591–607 (2012)

2012 27. The Pierre Auger Collaboration, *The effect of the geomagnetic field on cosmic ray energy estimates and large scale anisotropy searches on data from the Pierre Auger Observatory*, JCAP **2011** (022), 1–23 (2012)

2012 26. The Pierre Auger Collaboration, *Search for signatures of magnetically-induced alignment in the arrival directions measured by the Pierre Auger Observatory*, Astropart. Phys. **35** (6), 354–361 (2012)

2011 25. The Pierre Auger Collaboration, *Search for Ultra-High Energy Neutrinos in Highly Inclined Events at the Pierre Auger Observatory*, Phys. Rev. **D84**, 122005, 1–16 (2011) arXiv:1202.1493[astro-ph.HE]

2011 24. The Pierre Auger Collaboration, *The Lateral Trigger Probability function for UHE Cosmic Rays Showers detected by the Pierre Auger Observatory*, Astropart. Phys. **35** (5), 266–276 (2011)

2011 23. The Pierre Auger Collaboration, *Anisotropy and chemical composition of ultra-high energy cosmic rays using arrival directions measured by the Pierre Auger Observatory*, JCAP **06** 022 (2011), arXiv:1101.3048v1[astro-ph.HE]

2011 22. The Pierre Auger Collaboration, *Advanced functionality for radio analysis in the Offline software framework of the Pierre Auger Observatory*, NIM **A635** 92–102 (2011), arXiv:1101.4473v1[astro-ph.HE]

2011 21. The Pierre Auger Collaboration, *Search for First Harmonic Modulation in the Right Ascension Distribution of Cosmic Rays Detected at the Pierre Auger Observatory*, Astropart. Phys. **34** 627–639 (2011)

2011 20. The Pierre Auger Collaboration, *The Pierre Auger Observatory Scaler Mode for the Study of the Modulation of Galactic Cosmic Rays due to Solar Activity*, JINST **6** P01003–P01020 (2011). *__Coordinator__

2010 19. The Pierre Auger Collaboration, *The exposure of the hybrid detector of the Pierre Auger Observatory*, Astropart. Phys. **34**, 368–381 (2011)

2010 18. The Pierre Auger Collaboration, *Update on the correlation of the highest energy cosmic rays with nearby extragalactic matter*,Astropart. Phys. **34**, 314–326 (2010), arXiv:1009.1855v2[astro-ph.HE]

2010 17. The Pierre Auger Collaboration, *The Fluorescence Detector of the Pierre Auger Observatory*, NIM **A620**, 227 (2010), arXiv:0907.4282v1[astro-ph.IM]

2010 16. J. Blümer and The Pierre Auger Collaboration, *The Northern Site of the Pierre Auger Observatory*, Journal of Physics **12** (3) 035001 (2010)

2010 15. The Pierre Auger Collaboration, *A Study of the Effect of Molecular and Aerosol Conditions in the Atmosphere on Air Fluorescence Measurements at the Pierre Auger Observatory*, Astropart. Phys. **33**, 108–129 (2010), arXiv:1002.0366v1[astro-ph.HE]

2010 14. The Pierre Auger Collaboration, *Measurement of the energy spectrum of cosmic rays above 10^{18} eV using the Pierre Auger Observatory*, Phys. Lett. **B685** 239–246 (2010), arXiv:1002.1975v1[astro-ph.HE]

2010 13. The Pierre Auger Collaboration, *Measurement of the Depth of Maximum of Extensive Air Showers above 10^{18} eV*, PRL **104** 091101 (2010)arXiv:1002.0699v1[astro-ph.HE]

2010 12. The Pierre Auger Collaboration, *Trigger and Aperture of the Surface Detector Array of the Pierre Auger Observatory*, NIM **A613** 29–39, (2010)

2009 11. The Pierre Auger Collaboration, *Atmospheric effects on extensive air showers observed with the Surface Detector of the Pierre Auger Observatory*, Astropart. Phys. **32**, 89–99, (2009), arXiv:0906.5497v2[astro-ph.IM]

2009 10. The Pierre Auger Collaboration, *Upper limit on the cosmic-ray photon fraction at EeV energies from the Pierre Auger Observatory.*, Astropart. Phys. **31** 399–406 (2009) arXiv:0903.1127v1 [astro-ph.HE]

2009 9. The Pierre Auger Collaboration, *Limit on the diffuse flux of ultra-high energy tau neutrinos with the surface detector of the Pierre Auger Observatory.*, Phys. Rev. **D79** 10:1–15 (2009)arXiv:0903.3385v1[astro-ph.HE]

2008 8. D. Allard *et* al. [LAGO Collaboration], *Use of water-Cherenkov detectors to detect Gamma Ray Bursts at the Large Aperture GRB Observatory (LAGO)*, NIM **A595** 70–72 (2008)

2008 7. The Pierre Auger Collaboration, *Observation of the Suppression of the Flux of Cosmic Rays above* 4×10^{19} *eV.*, PRL **101** 061101 (2008)

2008 6. The Pierre Auger Collaboration, *Upper limit on the diffuse flux of UHE tau neutrinos from the Pierre Auger Observatory.*, PRL **100** 21101 (2008)

2008 5. The Pierre Auger Collaboration, *Upper limit on the cosmic-ray photon flux above* 10^{19} *eV using the surface detector of the Pierre Auger Observatory.*, Astropart. Phys. **29** 243–256 (2008)

2008 4. The Pierre Auger Collaboration, *Correlation of the highest-energy cosmic rays with the positions of nearby active galactic nuclei.*, Astropart. Phys. **29** 188–204 (2008)

2007 3. The Pierre Auger Collaboration, *Correlation of the highest energy cosmic rays with nearby extragalactic objects.*, Science **318** 939–943 (2007)

2007 2. The Pierre Auger Collaboration, *Anisotropy studies around the galactic centre at EeV energies with the Auger Observatory.*, Astropart. Phys. **27** 244–253 (2007)

2007 1. The Pierre Auger Collaboration, *An upper limit to the photon fraction in cosmic rays above* 10^{19} *eV from the Pierre Auger Observatory.*, Astropart. Phys. **27** 155–168 (2007)

Participation & presentations at Schools & Conferences

2012 22. H. Asorey, *Astropartículas en América Latina* invited talk at the Tercer Conferencia Colombiana de Astronomía y Astrofísica, COCOA2012, Bucaramanga, Colombia, 5–8 Nov 2012.

2012 21. H. Asorey [Pierre Auger Collaboration], *Heliospheric Modulation of Cosmic Rays Observed by the Pierre Auger Observatory and the LAGO Project*, parallel talk given at the 4^{th} International Workshop of High Energy Physics in the LHC Era HEP2012, Valparaiso, Chile, 4–10 Jan 2012.

2011 20. H. Asorey, *Fermi Problem: Power developed at the eruption of the Puyehue-Cordón Caulle volcanic system in June 2011*, talk given in the Physics Education Division during the the 96^{th} National Reunion SUF-AFA2011 of the Argentinian Physics Association, Montevideo, Uruguay, 20–23 Sept 2011.

2011 19. I. Allekotte, H. Arnaldi, H. Asorey, X. Bertou, M. Gómez Berisso, M. Sofo Haro, *Development of ultra fast and ultra low power consumption electronics in the Bariloche Particle and Radiation Detection Laboratory*, poster presentation in the 96^{th} National Reunion SUF-AFA2011 of the Argentinian Physics Association, Montevideo, Uruguay, 20–23 Sept 2011.

2011 18. H. Asorey[Pierre Auger Collaboration], *Low energy radiation measurements with the water Cherenkov detector array of the Pierre Auger Observatory*, in Proc. 32th International Cosmic Ray Conference, vol. 11 462–465, Beijing, China, 11–18 Ago 2011

2011 17. The Pierre Auger Collaboration, *The Pierre Auger Observatory III: Other Astrophysical Observations*, in Proc. 32th International Cosmic Ray Conference, Beijing, China, 11–18 Ago 2011.

2010 16. H. Asorey[Pierre Auger Collaboration], *The infill array of the Pierre Auger Observatory*, talk given in the Particle and Fields Division in the 95th National Reunion AFA2010 of the Argentinian Physics Association, Malargüe, Argentina, 28 Sept–01 Oct 2010.

2010 15. H. Asorey, J. Castro, A. López Dávalos, *Kepler, Newton, Feynman*, poster presentation in the 95th National Reunion AFA2011 of the Argentinian Physics Association, Malargüe, Argentina, 28 Sept–01 Oct 2010.

2010 14. H. Asorey[LAGO Collaboration], *The Large Aperture Gamma Ray Burst Observatory (LAGO)*, plenary talk in the 3rd International Workshop ofHigh Energy Physics in the LHC Era HEP2010, Valparaiso, Chile, 4–8 Jan 2010.

2009 13. H. Asorey[Pierre Auger Collaboration], *Cosmic Ray Solar Modulation Studies at the Pierre Auger Observatory*, in Proc. 31th International Cosmic Ray Conference, Lodz, Poland, 8–15 Jul 2009.

2009 12. The Pierre Auger Collaboration, *Astrophysical Sources of Cosmic Rays and Related Measurements with the Pierre Auger Observatory*, in Proc. 31th International Cosmic Ray Conference, Lodz, Poland, 8–15 Jul 2009.

2009 11. The LAGO Collaboration, *The Large Aperture GRB Observatory*, in Proc. 31th International Cosmic Ray Conference, Lodz, Poland, 8–15 Jul 2009.

2009 10. H. Asorey[Pierre Auger Collaboration], *The Acceptance of the Pierre Auger Observatory*, poster presentation in the VII Latinoamerican Symposium of High Energy Physics SILAFAE 2009, San Carlos de Bariloche, Argentina, 14-21 Jan 2009.

2008 9. XVI Course of the ISCRA (International School of Cosmic Ray Astrophysics) 2008: "Gamma Ray and Cosmic Ray Astrophysics: From below GeV to beyond EeV Energies", Erice, Italia, Julio 2008

2008 8. Invited talk "Towards Cosmic ray Solar Modulation Studies", University of Siegen, Siegen, Germany, 2008.

2007 7. D. Allard *et* al. [LAGO Collaboration], *Looking for the high energy component of GRBs at the Large Aperture GRB Observatory*, in Proc. 30th International Cosmic Ray Conference, Mérida, Mexico, 3-11 Jul 2007.

2007 6. IV Latin American School of Strings LASS 07, San Carlos de Bariloche, January 2007.

2006 5. H. Asorey[Pierre Auger Collaboration], *The Surface Detector Array of the Pierre Auger Observatory*, parallel talk in the 1st International Workshop of High Energy Physics in the LHC Era HEP2006, Valparaiso, Chile, 12–17 Dec 2006.

2006 4. D. Allard *et* al. [LAGO Collaboration], *The Large Aperture GRB aperture*, in Proc. of the Observational Astronomy in Argentina Workshop, Buenos Aires.

2005 3. Third CERN-CLAF Latin American School Of High Energy Physics, CERN, Malargüe, Argentina. Poster: "Event Reconstruction using the Surface Detectors At UHECR Pierre Auger Observatory"

2004 2. Sixth J. J. Giambiagi Winter School on Particle Physics, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. July 2004.

2005-2012 1. Sixteen technical and physics talks given at the Pierre Auger Collaboration meetings, Malargüe, Argentina.

Internal notes of the Pierre Auger Observatory (GAP Notes)

See www.auger.org/admin/GAP_Notes.

2011 13. R. Ravignani, H. Asorey, D. Melo, G. De La Vega, A. Etchegoyen, A. Ferrero, R. F. Gamarra, B. García, M. Josebachuili, F. Sánchez, I. Sidelnik, A. Tapia, B. Wundheiler, *Observation of the spectrum with the AMIGA infill*, GAP 2011-010.

2009 12. H. Asorey, I. Allekotte, X. Bertou, M. Gómez Berisso, *Acceptance of generalised Surface Detector Arrays from real data*, GAP 2009-155.

2009 11. H. Asorey, X. Bertou, D. Thomas, M. Mostafá, *The OMG Hybrid Event*, GAP 2011-154.

2009 10. H. Asorey, I. Allekotte, X. Bertou, M. Gómez Berisso, *Determining the acceptance of the Pierre Auger Surface Detector with the Infill Array*, GAP 2009-112.

2009 9. I. Allekotte, H. Asorey, M. Gómez Berisso, *Improving the determination of the Auger Surface Detector Single Station Trigger Probability from real data*, GAP 2009-019.

2008 8. H. Asorey, X. Bertou, *Determining the Dynamic Range needed for new Surface Detectors.*, GAP 2008-117.

2008 7. I. Allekotte, H. Asorey, X. Bertou, M. Gómez Berisso, *You thought you understood hexagons?*, GAP 2008-114

2008 6. S. Grebe, I. Allekotte, H. Asorey, X. Bertou, P. Buchholz, *Robustness of the CDAS reconstruction algorithm.*, GAP 2008-112.

2008 5. H. Asorey, X. Bertou, *First large timescale analysis of Auger SD scaler data: Towards cosmic ray Solar modulation studies.*, GAP 2008-072.

2007 4. H. Asorey, I. Allekotte, *Towards a complete set of weather data.*, GAP 2007-088.

2006 3. H. Asorey, X. Bertou, E. Roulet, *How to improve the SD arrival direction reconstruction by correcting the start-time of individual detectors.*, GAP 2006-052.

2005 2. H. Asorey, I. Allekotte, M. Gómez Berisso, X. Bertou, *Robustness of the angular reconstruction with the Surface Array of the Auger Observatory.*, GAP 2005-107.

2005 1. H. Asorey, I. Allekotte, M. Gómez Berisso, X. Bertou, *Robustness of the energy reconstruction with the Surface Array of the Auger Observatory.*, GAP 2005-084.

Human Resources

2012 Master thesis referee at the disertación para optar por el título de Magister en Ciencias Físicas, otorgado por el Instituto Balseiro, Universidad Nacional de Cuyo, Bariloche, Argentina, Mg. Lucas Micheletti, Diciembre de 2012.

2012 Master thesis referee at the disertación para optar por el título de Magister en Ciencias Físicas, otorgado por el Instituto Balseiro, Universidad Nacional de Cuyo, Bariloche, Argentina, Mg. Manuel Gonzalez, Diciembre de 2012.

2012 Undergraduate thesis referee at the disertación para optar por el título de Físico otorgado por la Universidad Industrial de Santander (Escuela de Física), Bucaramanga, Colombia, Lic. Christian Sarmiento Cano, Noviembre de 2012.

Organising & other Academic Activities

2011 Member of the local organising committee of the "First International Workshop for the Design of the ANDES Underground Laboratory", Centro Atómico Constituyentes, Buenos Aires, Argentina, 11-14 April 2011.

2010 Member of the local organising committee of the "XI ICFA School on Instrumentation in Elementary Particle Physics", San Carlos de Bariloche, Argentina, Jan 2010.

2010 Member of the local organising committee of the "95ª Reunión Nacional de Física de la Asociación Argentina de Física", Malargüe, Argentina, Sept-Oct 2010.

2009 Member of the local organising committee of the "VII Simposio Latinoamericana de Física de Altas Energías SILAFAE 2009", San Carlos de Bariloche, Argentina, Jan 2009.

2005 Member of the Instituto Balseiro Academic Council, elected by the Physics students.

Outreach & Complementary Activities

2011 H. Asorey, A. Clúa, A. López Dávalos Cien millones de toneladas en un sólo día, Clarín (national circulation newspaper), 2011. Reproduced in hundreds of Argentinian and international newspapers and media.

2011 H. Asorey, *Viviendo con una estrella*, Solar physics and space weather phenomena talk, oriented to general public and high-school students of the Rio Negro Province. Begin: March-2011

2010 *Distinguen trabajo de Investigadores del Centro Atómico Bariloche* (H. Asorey, X. Bertou, M. Gómez Berisso), El Cordillerano, Bariloche 2000 y ANBariloche, 2010.

2010 Laura García, *Red Latinoamericana de Detectores para Estudiar Radiación Gamma* (H. Asorey, X. Bertou, M. Gómez Berisso), El Cordillerano, Bariloche 2000 y ANBariloche, 2010.

2009 H. Asorey, *Astrophysics for everyone*, bimonthly column in the "Nature and technology" local magazine.

2008 H. Asorey, *The Pierre Auger Observatory: a look to the Universe to the highest energies*, invited talk oriented for general public, National University of Quilmes, Argentina, April 2008.

Additional Information

Languages: Spanish (mother tongue); English (speaks, read, write); French (read), Italian (read and speaks)

Computing skills: Linux and Windows operative system. Preferred editor: VIm.

Programming skills: C/C++, Perl, Python, HTML, PHP, SQL, and Bash.

Technical computing and data analysis software skills: root, gnuplot, spyder, Mathematica, AutoCAD design software.

References

For references of my work, please contact the following persons:
Dr. Alberto Etchegoyen (alberto.etchegoyen@iteda.cnea.gov.ar)
Dr. Ingomar Allekotte (ingo@cab.cnea.gov.ar)
Dr. Esteban Roulet (roulet@cab.cnea.gov.ar)
Dr. Xavier Bertou (bertou@cab.cnea.gov.ar)
Prof. Carola Graziosi (cgraziosi@unrn.edu.ar)
Dr. Piera Luisa Ghia (piera.ghia@lpnhe.in2p3.fr)

Hernán Asorey
9th December 2012