

Curriculum Vitae

Personal Information

Jordan Alvin Goodman

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Academic Appointments at UMD

2015 - present	Distinguished University Professor, Univ. of Maryland
1990 – 2015	Professor of Physics, Univ. of Maryland
1985 - 1990	Associate Professor, Univ. of Maryland
1980 - 1985	Assistant Professor, Univ. of Maryland

Administrative Appointments at UMD

1999 – 2006	Chair, Department of Physics, Univ. of Maryland
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Educational Background

Undergraduate:	B.S., Physics, University of Maryland - 1973
Graduate:	M.S., Physics, University of Maryland - 1975
	Ph.D., Physics, University of Maryland - 1978

Research, Scholarly and Creative Activities

US-Spokesperson for HAWC Gamma Ray Observatory 2008-2010, 2014-present
Principal Investigator for HAWC Gamma Ray Observatory 2008- present
Co-Spokesperson/PI for MILAGRO Gamma Ray Experiment 1992 -present
IceCube Collaboration – Km³ Neutrino Observatory at the South Pole 2003-2013
Super-Kamiokande Neutrino Experiment - Kamioka, Japan 1994-2004
Spokesperson/PI for CYGNUS Gamma-Ray Experiment at Los Alamos 1985-94
Fermilab Experiment E710 - Measurement of elastic scattering and total cross section of p p at the Fermilab collider 1985-1991
Fermilab Experiment E672 - Dimuon and Jet experiment 1983-1985
Fermilab experiment E594 to measure cosmic ray hadrons and muons, 1982-84
Delayed hadron experiment, College Park, MD 1979-1985
Measurement of the composition of flux of cosmic rays at 2900 M, Sacramento Ridge Cosmic Ray Laboratory (SRCRL), U. of MD., Sunspot, NM, 1973-1978
Search for massive new stable particles in cosmic rays, SRCRL, 1976-1978
Measurement of the primary composition above 10¹³eV by hadron arrival time studies, SRCRL 1976-1978

Awards, Honors and Recognition

2017 Yodh Prize, Astroparticle Physics Commission of IUPAP
The 2016 Breakthrough Prize in Fundamental Physics
Distinguished University Professor, University of Maryland, 2015 July
Distinguished Alumni Award, Department of Physics, 2015 May
CMNS Board of Visitors Creative Educator Award 2013
University of Maryland President's Medal 2009
Malmstrom Lecture – Hamline University 2010
Fellowship American Association for the Advancement of Science 2009
Founding Fellow Joint Space Institute (UM) 2010
Atlantic Coast Conference Teaching Scholar 2009
CMPS Distinguish Alumni Award 2008
Fellow of the American Physical Society 1997
University of Maryland Presidential Award for Outstanding Service to the Schools
1994

Teaching Awards

Faculty Excellence in Teaching Award Lecture - CTE 2009
Kirwan Prize for Undergraduate Education 2004
Fellowship UM Academy of Excellence in Teaching and Learning 2002-present
Richtmyer Lecture Prize– American Physical Society 2001
USM Regents Award for Excellence in Teaching 2000
UMCP Distinguished Scholar-Teacher Award 1999-2000

Sponsored Research (since 2006)

PI – HAWC Operations NSF \$3.2M 2013-2018
PI - Particle Astrophysics at the University of Maryland NSF \$1.4M 2013-2016
PI - Particle Astrophysics at the University of Maryland NSF \$1.4M 2016-2019
PI – HAWC Construction NSF - \$6.8M 02/01/2011 – 01/31/2016
PI – Personnel Support for HAWC Construction and Commissioning - NSF \$1.2M
10/01/2010 – 5/31/2013
PI MRI: Development of the HAWC-256 Wide-Field Gamma Ray Detector - NSF
\$605,000 with Matching \$1.05M 09/01/2008 to 08/31/2011
Co-PI Particle Astrophysics at the University of Maryland NSF 06/01/2008 -
05/31/2011 - \$2.5M
PI Particle Astrophysics with Milagro National Science Foundation 06/01/2006 -
06/30/2008 Total Funding: \$830,000
Co-PI Particle Astrophysics with the South Pole IceCube Neutrino Observatory,
Nation Science Foundation, 09/15/2005 08/31/2007, Total Funding: \$750,000
PI Particle Astrophysics with Milagro National Science Foundation 05/01/2003 -
06/30/2006 Total Funding: \$1,350,000
PI Operation of the Milagro Gamma Ray Observatory National Science
Foundation 06/01/2004 - 05/31/2006-- Total Funding: \$1,984,339

Teaching, Mentoring and Advising.

Courses Taught since 2006

Honors 378N – Fall 2012, 2013,2014–(Devel. New Research Course for the NSA)
Phys/Astr498P, PARTICLE ASTROPHYSICS, Spring 2015,
Honors 238W – Spring 2012
Physics105–2008, 2009,2010,2011,2013 (Devel. New Marquee Course-2008)
Physics 174-Spring 1997-Spring1998, 2010, 2011(Developed New Course -1997)
Physics 106 - 1985, 1986, 1987, 1988, 1993, 2006, 2007, 2008

Course or Curriculum Development

Phys/Astr498P - PARTICLE ASTROPHYSICS New Course Spring 2015,
Honors 378N – Fall 2012, 2013 – (Developed New Research Course for the NSA)
Physics 105–2008,2009,2010,2011,2013 (Devel. New Marquee Course 2008)
Physics 104 - Spring 1999 (Developed New Course -1999)
Physics 174 - Spring 1997- Spring 1998, 2010, 2011 (Devel. New Course -1997)

Articles in Refereed Journals Since 2006

The 2HWC HAWC Observatory Gamma Ray Catalog, By HAWC Collaboration,
A.U. Abeysekara et al..Feb 9, 2017. e-Print: arXiv:1702.02992, Accepted by Ap. J

Observation of the Crab Nebula with the HAWC Gamma-Ray Observatory, By
HAWC Collaboration, A.U. Abeysekara (Utah U.) et al.. Jan 6, 2017. e-Print:
arXiv:1701.01778, Accepted by Ap. J

Daily Monitoring of TEV Gamma-Ray Emission from Mrk 421, Mrk 501, and the
Crab Nebula with HAWC - Accepted for publication in ApJ -
<https://arxiv.org/abs/1703.06968>

The HAWC real-time flare monitor for rapid detection of transient events
<https://arxiv.org/abs/1704.07411>

Search for Very High Energy Gamma Rays from the Northern Fermi Bubble
Region with HAWC - <https://arxiv.org/abs/1703.01344> - Accepted in ApJ

Search For Very-High-Energy Emission From Gamma-Ray Bursts Using The First
18 Months Of Data From The Hawc Gamma-Ray Observatory-
<https://arxiv.org/abs/1705.01551> - Accepted in ApJ

Multiwavelength follow-up of a rare IceCube neutrino multiplet, M.G. Aartsen
(Adelaide U.) et al.. Feb 20, 2017. 23 pp. e-Print: arXiv:1702.06131, Submitted to
Astronomy & Astrophysics

Search for TeV Gamma-Ray Emission from Point-like Sources in the Inner Galactic Plane with a Partial Configuration of the HAWC Observatory By HAWC Collaboration (A.U. Abeysekara et al.). arXiv:1509.05401 [astro-ph.HE]. 10.3847/0004-637X/817/1/3. *Astrophys.J.* 817 (2016) 1, 3.

Evidence for Astrophysical Muon Neutrinos from the Northern Sky with IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1507.04005 [astro-ph.HE]. 10.1103/PhysRevLett.115.081102. *Phys.Rev.Lett.* 115 (2015) 8, 081102.

A combined maximum-likelihood analysis of the high-energy astrophysical neutrino flux measured with IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1507.03991 [astro-ph.HE]. 10.1088/0004-637X/809/1/98. *Astrophys.J.* 809 (2015) 1, 98.

Measurement of the Atmospheric ν_e Spectrum with IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1504.03753 [astro-ph.HE]. 10.1103/PhysRevD.91.122004. *Phys.Rev.* D91 (2015) 122004.

Searches for Time Dependent Neutrino Sources with IceCube Data from 2008 to 2012 By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1503.00598 [astro-ph.HE]. 10.1088/0004-637X/807/1/46. *Astrophys.J.* 807 (2015) 1, 46.

Flavor Ratio of Astrophysical Neutrinos above 35 TeV in IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1502.03376 [astro-ph.HE]. 10.1103/PhysRevLett.114.171102. *Phys.Rev.Lett.* 114 (2015) 17, 171102.

The IceProd Framework: Distributed Data Processing for the IceCube Neutrino Observatory By M.G. Aartsen et al.. arXiv:1311.5904 [cs.DC]. j.jpdc.2014.08.001. *J.Parallel Distrib.Comput.* 75 (2015) 198–211.

Search for Prompt Neutrino Emission from Gamma-Ray Bursts with IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1412.6510 [astro-ph.HE]. 10.1088/2041-8205/805/1/L5. *Astrophys.J.* 805 (2015) 1, L5.

Determining neutrino oscillation parameters from atmospheric muon neutrino disappearance with three years of IceCube DeepCore data By IceCube Collaboration (M. G. Aartsen et al.). arXiv:1410.7227 [hep-ex]. 10.1103/PhysRevD.91.072004. *Phys.Rev.* D91 (2015) 7, 072004.

Atmospheric and astrophysical neutrinos above 1 TeV interacting in IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1410.1749 [astro-ph.HE]. 10.1103/PhysRevD.91.022001. *Phys.Rev.* D91 (2015) 2, 022001.

Search for gamma-rays from the unusually bright GRB 130427A with the HAWC Gamma-ray Observatory By HAWC Collaboration (A.U. Abeysekara et al.).

arXiv:1410.1536 [astro-ph.HE]. 10.1088/0004-637X/800/2/78. *Astrophys.J.* 800 (2015) 2, 78.

Development of a General Analysis and Unfolding Scheme and its Application to Measure the Energy Spectrum of Atmospheric Neutrinos with IceCube By IceCube Collaboration (M.G. Aartsen et al.). arXiv:1409.4535 [astro-ph.HE]. 10.1140/epjc/s10052-015-3330-z. *Eur.Phys.J. C* 75 (2015) 3, 116.

Observation of Small-scale Anisotropy in the Arrival Direction Distribution of TeV Cosmic Rays with HAWC. (A. U. Abeysekara, et. al.) *The Astrophysical Journal*. 10.1088/0004-637X/796/2/108. *Astrophys.J.* 796 (2014) 2, 108.

Milagro Limits and HAWC Sensitivity for the Rate-Density of Evaporating Primordial Black Holes (A. A. Abdo et. al.) arXiv:1407.1686 [astro-ph.HE]. 10.1016/j.astropartphys.2014.10.007. *Astropart.Phys.* 64 (2014) 4-12.

VAMOS: a Pathfinder for the HAWC Gamma-Ray Observatory. (A. U. Abeysekara, et. al.) (2014) (62). *Astroparticle Physics*. 125. DOI: 10.1016/j.astropartphys.2014.08.004.

Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector, IceCube Collaboration (M.G. Aartsen et al.). Nov 20, 2013. *Science* 342, 1242856 (2013) DOI: 10.1126/Science.1242856

Measurement of Atmospheric Neutrino Oscillations with IceCube, IceCube Collaboration (M.G. Aartsen et al.). May 16, 2013. 6 pp. *Phys.Rev.Lett.* 111 (2013) 081801 DOI: 10.1103/PhysRevLett.111.081801

First observation of PeV-energy neutrinos with IceCube, IceCube Collaboration (M.G. Aartsen et al.). Apr 19, 2013. 7 pp. *Phys.Rev.Lett.* 111 (2013) 021103, DOI: 10.1103/PhysRevLett.111.021103

Measurement of the Atmospheric ν_e flux in IceCube, IceCube Collaboration (M.G. Aartsen et al.). Dec 2012. 7 pp. *Phys.Rev.Lett.* 110 (2013) 151105, DOI: 10.1103/PhysRevLett.110.151105

Search for dark matter annihilations in the Sun with the 79-string IceCube detector, IceCube Collaboration (M.G. Aartsen et al.). Dec 2012. 7 pp. *Phys.Rev.Lett.* 110 (2013) 131302 DOI: 10.1103/PhysRevLett.110.131302

Search for Galactic PeV Gamma Rays with the IceCube Neutrino Observatory, IceCube Collaboration (M.G. Aartsen et al.). Oct 2012. 15 pp., *Phys.Rev. D* 87 (2013) 062002, DOI: 10.1103/PhysRevD.87.062002

Observation of Cosmic Ray Anisotropy with the IceTop Air Shower Array, IceCube Collaboration (M.G. Aartsen et al.). Oct 2012., *Astrophys.J.* 765 (2013) 55, DOI: 10.1088/0004-637X/765/1/55

IceTop: The surface component of IceCube, Abbasi, R.; Abdou, Y.; Ackermann, M.; et al. (IceCube Collaboration) *NIM* Volume: 700 Pages: 188-220 DOI: 10.1016/j.nima.2012.10.067 Published: FEB 1 2013

Lateral distribution of muons in IceCube cosmic ray events Abbasi, R.; Abdou, Y.; Ackermann, M.; et al. (IceCube Collaboration) *Phys Rev D* Volume: 87 Issue: 1 Article Number: 012005 DOI: 10.1103/PhysRevD.87.012005 Published: JAN 7 2013

Search for ultrahigh-energy tau neutrinos with IceCube Abbasi, R.; Abdou, Y.; Ackermann, M.; et al. (IceCube Collaboration) *Phys Rev D* Volume: 86 Issue: 2 Article Number: 022005 DOI: 10.1103/PhysRevD.86.022005 Published: JUL 26 2012

The design and performance of IceCube DeepCore, Abbasi, R.; Abdou, Y.; Abu-Zayyad, T.; et al. (IceCube Collaboration) *ASTROPARTICLE PHYSICS* Volume: 35 Issue: 10 Pages: 615-624 DOI: 10.1016/j.astropartphys.2012.01.004 Published: MAY 2012

An absence of neutrinos associated with cosmic-ray acceleration in gamma-ray bursts (R. Abbasi et al.) *Nature* 484, 351–354 (19 April 2012) doi:10.1038/Nature11068

Constraints on the emission model of the “Naked-Eye Burst” GRB 080319B(A. Abdo et al.) 2012 *ApJ* 753 L31 doi:10.1088/2041-8205/753/2/L31

Spectrum and Morphology of the Two Brightest Milagro Sources in the Cygnus Region: MGRO J2019+37 and MGRO J2031+41 (A. Abdo et al.) *ApJ* 753 159 2012 doi:10.1088/0004-637X/753/2/159

On the sensitivity of the HAWC observatory to gamma-ray bursts (Abeysekara et al.) *Astroparticle Physics* 35, Issue 10, May 2012, 641-650

Observation and Spectral Measurements of the Crab Nebula with Milagro (A. Abdo et al.) 2012 *ApJ* 750 63

Background studies for acoustic neutrino detection at the South Pole. By IceCube Collaboration (R. Abbasi et al.). *Astropart.Phys.* 35 (2012) 312-324.

"Time-Dependent Searches for Point Sources of Neutrinos with the 40-String and 22-String Configurations of IceCube". By IceCube Collaboration (R. Abbasi et al.) *Astrophys.J.* 744 (2012)

Measurement of Acoustic Attenuation in South Pole Ice. By IceCube Collaboration (R. Abbasi et al.). *Astropart.Phys.* 34 (2011) 382-393.

Measurement of the atmospheric neutrino energy spectrum from 100 GeV to 400 TeV with IceCube. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.* D83 (2011) 012001.

Time-Integrated Searches for Point-like Sources of Neutrinos with the 40-String IceCube Detector. By The IceCube Collaboration (R. Abbasi et al.). *Astrophys.J.* 732 (2011) 18.

Limits on Neutrino Emission from Gamma-Ray Bursts with the 40 String IceCube Detector. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.Lett.* 106 (2011) 141101.

First search for atmospheric and extraterrestrial neutrino-induced cascades with the IceCube detector. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.* D84 (2011) 072001.

Search for Dark Matter from the Galactic Halo with the IceCube Neutrino Observatory. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.* D84 (2011) 022004.

Search for neutrino-induced cascades with five years of AMANDA data. By R. Abbasi, et al.. *Astropart.Phys.* 34 (2011) 420-430.

Constraints on high-energy neutrino emission from SN 2008D. By IceCube Collaboration (R. Abbasi et al.). *Astron.Astrophys.* 527 (2011) A28.

Constraints on the Extremely-high Energy Cosmic Neutrino Flux with the IceCube 2008-2009 Data. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.* D83 (2011) 092003, Erratum-ibid. D84 (2011) 079902.

A Search for a Diffuse Flux of Astrophysical Muon Neutrinos with the IceCube 40-String Detector. By IceCube Collaboration (R. Abbasi et al.). *Phys.Rev.* D84 (2011) 082001.

Observation of Anisotropy in the Arrival Directions of Galactic Cosmic Rays at Multiple Angular Scales with IceCube. By IceCube Collaboration (R. Abbasi et al.). *Astrophys.J.* 740 (2011) 16.

Search for a Lorentz-violating sidereal signal with atmospheric neutrinos in IceCube. (R. Abbasi et al.) *Phys.Rev.*D82:112003, 2010. [arXiv:1010.4096]

Search for relativistic magnetic monopoles with the AMANDA-II neutrino telescope. By R. Abbasi, et al., *Eur.Phys.J.*C69:361-378, 2010.

The first search for extremely-high energy cosmogenic neutrinos with the IceCube Neutrino Observatory. (R. Abbasi et al.) Phys.Rev.D82:072003, 2010. [arXiv:1009.1442]

Measurement of the Anisotropy of Cosmic Ray Arrival Directions with IceCube. (R. Abbasi et al.) Astrophys.J.718:L194, 2010. [arXiv:1005.2960]

The Energy Spectrum of Atmospheric Neutrinos between 2 and 200 TeV with the AMANDA-II Detector. (R. Abbasi et al.) Astropart.Phys.34:48-58, 2010. [arXiv:1004.2357]

Limits on a muon flux from Kaluza-Klein dark matter annihilations in the Sun from the IceCube 22-string detector. (R. Abbasi et al.) Phys.Rev.D81:057101, 2010. [arXiv:0910.4480]

Measurement of sound speed vs. depth in South Pole ice for neutrino astronomy. (R. Abbasi et al.) Astropart.Phys.33:277-286, 2010. [arXiv:0909.2629]

Calibration and Characterization of the IceCube Photomultiplier Tube. (R. Abbasi et al.) Nucl.Instrum.Meth.A618:139-152, 2010. [arXiv:1002.2442]

Search for muon neutrinos from Gamma-Ray Bursts with the IceCube neutrino telescope (R. Abbasi et al.) Astrophys.J.710:346-359, 2010. [arXiv:0907.2227]

Milagro Observations of TeV Emission from Galactic Sources in the Fermi Bright Source List (A. Abdo et. al.) Ap. J. Letters Apr 2009 700:L127-L131,(2009)

First Neutrino Point-Source Results From the 22-String IceCube Detector. (R. Abbasi et al.) May 2009. Astrophys.J.701:L47-L51,2009.

Extending the search for neutrino point sources with IceCube above the horizon. (R. Abbasi et al.) Nov 2009. Phys.Rev.Lett.103:221102,2009.

Search for high-energy muon neutrinos from the 'naked-eye' GRB 080319B with the IceCube neutrino telescope. (R. Abbasi et al.) Feb 2009. 20pp. Astrophys.J.701:1721-1731,2009

Limits on a muon flux from neutralino annihilations in the Sun with the IceCube 22-string detector. (R. Abbasi et al.) Phys.Rev.Lett.102:201302,(2009)

Determination of the Atmospheric Neutrino Flux and Searches for New Physics with AMANDA-II. (R. Abbasi et al.) Phys.Rev.D79:102005,(2009)

Search for Point Sources of High Energy Neutrinos with Final Data from AMANDA-II. (R. Abbasi et al.). Phys.Rev.D79:062001,(2009)

The IceCube Data Acquisition Subsystem: Signal Capture, Digitization, and Timestamping (R. Abbasi et al.) Nuclear Instruments and Methods in Physics Research A 601 (2009) 294 A316

The Large Scale Cosmic-Ray Anisotropy as Observed with Milagro. (A.A. Abdo et al.) *Astrophys.J.*698:2121-2130,(2009)

Discovery of Localized regions of Excess 10-TeV Cosmic Rays By Milagro Collaboration (A. Abdo et. al.) *Phys. Rev. Lett.* 101, 221101 (2008)

A Measurement of the Spatial Distribution of Diffuse TeV Gamma-Ray Emission from the Galactic Plane with Milagro By Milagro Collaboration (A. Abdo et. al.) *Astrophysical Journal* 688, 1078 (2008)

“TeV Gamma-Ray Sources from a Survey of the Galactic Plane with Milagro” By Milagro Collaboration (A. Abdo et. al.) *Ap. J. Letters* August 2007 664, L91

“Discovery of TeV Gamma-Ray Emission from the Cygnus Region of the Galaxy” By Milagro Collaboration (A. Abdo et. al.) *Ap. J. Letters* March 658, L33, 2007

Detection of Atmospheric Muon Neutrinos with the IceCube 9-String Detector. By The IceCube Collaboration (A. Achterberg et al.). May 2007. *Phys.Rev.D*76:027101,2007

Search for neutrino-induced cascades from gamma-ray bursts with AMANDA. By IceCube Collaboration (A. Achterberg et al.). Mar 2007. 38pp. *Astrophys.J.*

Multi-year search for a diffuse flux of muon neutrinos with AMANDA-II. By IceCube Collaboration (A. Achterberg et al.). May 2007. 40pp. Published in *Phys.Rev.D*76:042008,2007

“Milagro Constraints on Very High Energy Emission from Short Duration Gamma-Ray Bursts by the Milagro Collaboration” (A. Abdo et. al) *Astrophysical Journal* 666(2007), pages 361 – 367

Search for neutrino-induced cascades from gamma-ray bursts with AMANDA. By IceCube Collaboration (A. Achterberg et al.). Mar 2007. 38pp. Published in *Astrophys.J.*664:397,2007.

“Five years of searches for point sources of astrophysical neutrinos with the AMANDA-II neutrino telescope.” By IceCube Collaboration (A. Achterberg et al.). Nov 2006. 32pp. Published in Phys.Rev.D75:102001,2007.

“Discovery of TeV Gamma-Ray Emission from the Cygnus Region of the Galaxy” By Milagro Collaboration” (A. Abdo et. al.) Ap. J. Letters March 658, L33, 2007e-Print Archive: ASTRO-PH 0611691

Observation Of The Anisotropy Of 10-Tev Primary Cosmic Ray Nuclei Flux With The Super-Kamiokande-I Detector. By Super-Kamiokande Collaboration (G. Guillian et al.). Phys. Rev. D, vol. 74 no. 6 (2007), pp. 062003

Milagro Constraints on Very High Energy Emission from Short Duration Gamma-Ray Bursts by the Milagro Collaboration (A. Abdo et. al) Astrophysical Journal 666(2007), pages 361 - 367

Limits on the High-Energy Gamma and Neutrino Fluxes from the SGR 1806-20 Giant Flare of 27 December 2004 with the AMANDA-II Detector
A. Achterberg et al. (IceCube Collaboration) Phys. Rev. Lett. 97, 221101 (2006)

Solar Neutrino Measurements In Super- Kamiokande-I. J. Hosaka et al., Phys.Rev.D73:112001,2006

Limits On The Muon Flux From Neutralino Annihilations At The Center Of The Earth With Amanda. A. Achterberg et al., Astropart.Phys.26:129-139,2006.

Solar Neutrino Measurements In Super-Kamiokande-I.
By Super-Kamkiokande Collaboration (J. Hosaka et al.). 32pp.
Phys. Rev. D 73, 112001 (2006) e-Print Archive: hep-ex/0508053

Observation Of The Anisotropy Of 10-Tev Primary Cosmic Ray Nuclei Flux With The Super-Kamiokande-I Detector. By Super-Kamiokande Collaboration (G. Guillian et al.). Physical Review D, vol. 75, Issue 6, id. 062003 2007
e-Print Archive: astro-ph/0508468

”Three Flavor Neutrino Oscillation Analysis Of Atmospheric Neutrinos In Super-Kamiokande.” J. Hosaka et al., Phys.Rev.D74:032002,2006.

“Recent results from the Milagro gamma ray observatory”, Goodman, JA , NUCLEAR PHYSICS B-PROCEEDINGS SUPPLEMENTS, 151: 101-107 JAN 2006

Talks Since 2006

Keynotes

Status and Results from the HAWC Gamma Ray Observatory – The HAWC Inauguration – March 20, 2015, Puebla Mexico

Invited Talks

A New Look at the TeV Sky with the HAWC Gamma Ray Observatory
APS Senior Physicists Group, College Park, February 15, 2017

A New Look at the TeV Sky with the HAWC Gamma Ray Observatory
Physics Colloquium, Indiana University, Bloomington, January 27, 2017

A New Look at the TeV Sky with the HAWC Gamma Ray Observatory
US Naval Observatory Colloquium, Washington D.C., October 27, 2016

Multi-Messenger Astronomy

Public Lecture, Riderwood Community, October 8, 2016

A New Look at the TeV Sky with the HAWC Gamma Ray Observatory
Astronomy Colloquium, University of Maryland, October 5, 2016

Results from the First Year of the HAWC Gamma Ray Observatory
Pacific 2016, Moorea, French Polynesia, September, 14, 2016

Commencement Address for Richard Montgomery High School
Constitution Hall, Washington D.C., June 10, 2016

Air Showers

Fermi Summer School, Lewis Delaware, June 6, 2016

Results from the First Year of the HAWC Gamma Ray Observatory
Fermi Summer School, Lewis Delaware, June 7, 2016

Results from the First Year of the HAWC Gamma Ray Observatory
KICP Colloquium, University of Chicago, May 10, 2016

What the Universe is Made of and How Do We Know?

A series of eight lectures to high school students at the American School in Milan, Italy, April 11-13, 2016

HAWC Status and UHE Cosmic Rays, Aspen Winter Physics Conference, Aspen, Co, January 2016

Status and Results from the HAWC Gamma Ray Observatory – Brown University Colloquium, Providence Rhode Island, November 2015

Status and Results from the HAWC Gamma Ray Observatory – Aachen University Colloquium, Aachen Germany, June 2015

Status and Results from the HAWC Gamma Ray Observatory – Carnegie Mellon University/Pitt Colloquium, April 2015

Physics with HAWC – Air Shower Detection at High Altitude, Paris, France May 2014

Cosmic Ray Anisotropy at TeV Energies - Erice, Sicily 2014

First Light in HAWC – IPA Symposium Madison WI, May 2013

The HAWC Gamma-Ray Observatory - Centenary Symposium 2012: Discovery of Cosmic Rays, University of Denver, June 2012

Joint Space-Sciences Mini-Symposium – April 6, 2012 “Cosmic Rays, from Galactic to Ultra High Energy; What Do We Know About Their Sources?”

University of Delaware Colloquium – Feb 15, 2012, “Our Changing View of the TeV Sky”

Astrophysical Multimessenger Observatory Network – Inaugural Workshop, October 2011, State College, PA – “The HAWC Observatory”

University of Maryland President’s Tailgate, September 17, 2011, “Neutrino Astronomy in 7 Minutes”

Seminar Shanghai Jiao Tong University, August 15, 2011 “Our Changing View of the TeV Sky”

Guillermo Haro Workshop, Puebla, Mexico, July 12, 2011 “Cosmic Ray Anisotropy at TeV Energies”

Goddard – Maryland Interaction Day, June 17, 2011, “The Status of HAWC”

University of Maryland Alumni Board of Governors, May 14, 2011, “Neutrino Astronomy at the South Pole”

Marquee Public Lecture –University of Maryland, April 12, 2011, “The Future of Global Energy and Climate”

SnowPAC Conference on High Energy Astrophysics Snowbird, Utah February 3, 2011 – “AGN with HAWC”

Colloquium, University of Wisconsin, Madison, October 15, 2010 – Gamma-Ray Astronomy with Milagro and HAWC

Colloquium, Michigan State University, October 7, 2010 – Neutrino Astronomy at the South Pole

XVI International Symposium on Very High Energy Cosmic Ray Interactions (ISVHECRI 2010) June 30, 2010 – Cosmic Ray Anisotropy at TeV Energies

Malmstrom Lecture – Hamline University, St. Paul, Mn May 7, 2010 “Neutrino Astronomy at the South Pole”

Invited Talk Snowpac Conference on High Energy Astrophysics Snowbird, Utah March 23, 2010 – “Galactic Sources with Milagro and HAWC”

Published Conference Proceedings Since 2006

Refereed Conference Proceedings

The HAWC Gamma-Ray Observatory - Centenary Symposium 2012: Discovery of Cosmic Rays, University of Denver, June 2012

Physics with HAWC. By HAWC and Milagro Collaborations (Jordan A. Goodman *for the collaboration*). 2009. 4pp. Published in **AIP Conf.Proc.1085:809-812,2009**

Non-Refereed Conference Proceedings

HAWC Contributions to the 34th International Cosmic Ray Conference (ICRC2015)
By HAWC Collaboration (A.U. Abeysekara et al.).
arXiv:1508.03327 [astro-ph.HE].

The HAWC Gamma-Ray Observatory: Design, Calibration, and Operation
By HAWC Collaboration (A.U. Abeysekara et al.).
arXiv:1310.0074 [astro-ph.IM].

The HAWC Gamma-Ray Observatory: Dark Matter, Cosmology, and Fundamental Physics
By HAWC Collaboration (A.U. Abeysekara et al.).
arXiv:1310.0073 [astro-ph.HE].

The HAWC Gamma-Ray Observatory: Observations of Cosmic Rays
By HAWC Collaboration (A.U. Abeysekara et al.).
arXiv:1310.0072 [astro-ph.HE].

The HAWC Gamma-Ray Observatory: Sensitivity to Steady and Transient Sources
of Gamma Rays
By HAWC Collaboration (A.U. Abeysekara et al.).
arXiv:1310.0071 [astro-ph.HE].

The IceCube Neutrino Observatory Part VI: Ice Properties, Reconstruction and
Future Developments
By IceCube Collaboration (M.G. Aartsen et al.).
arXiv:1309.7010 [astro-ph.HE].

The IceCube Neutrino Observatory Part V: Neutrino Oscillations and Supernova
Searches By IceCube Collaboration (M.G. Aartsen et al.).
arXiv:1309.7008 [astro-ph.HE].

The IceCube Neutrino Observatory Part IV: Searches for Dark Matter and Exotic
Particles
By IceCube Collaboration (M.G. Aartsen et al.).
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By IceCube Collaboration (M.G. Aartsen et al.).
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The IceCube Neutrino Observatory Part II: Atmospheric and Diffuse UHE Neutrino
Searches of All Flavors
By IceCube Collaboration (M.G. Aartsen et al.).
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By IceCube Collaboration (M.G. Aartsen et al.).
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Jordan A. Goodman

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Service and Outreach

Committees, Professional & Campus Service

Campus Service – Department

Chair – Department of Physics – 1999- 2006
Full Professor Promotion Committee 2016
Presentation to Saturday Morning Physics 2016
Research Presentation to Astro Terps 2016
Research Presentation to SPS 2016
Lab Revision Committee 2013 -2015
Acting Co-Director Joint Space-Sciences Institute 2011-2012
Departmental APT Committee 2010-2012
Departmental Priorities Committee 2007-2008
Lecture Demo Search Committee 2008
Teaching Interview Committee 2006-2014
Chair Physics Financial Director Search Committee 2008
Co-Chair, Physics Majors Laboratory Committee 1996-1999
Chair, Physics Faculty Assembly 1994-1999
Physics Department Laboratory Committee 1994-1999
Physics Undergraduate Education Committee 1994-97
Undergraduate Recruitment Presentations 1997, 1998
Search Committee - Joint Physics & Education Professorship 1997
PhD. Final Oral Committees (Stark and Bartlett) 1994
Teaching Assistant Orientation and Training 1980-present
Chair, Assistant Professor Search Committee 1994-95
Department Qualifying Problems and Oral Exam 1994
Physics Chair Search Committee 1993
Physics Salary Committee - 1992-1993
Priorities Committee - 1992-1995
Co-Chair Physics Colloquium Committee - 1991-92
Graduate Education Committee 1987-1993
Honors Committee 1981-1988 - Chairman 1986-1988
High School Liaison Committee 1980-present
Teaching Evaluation 1980-1988
Chairman: Technical Committee for High Energy Computer 1984-1996
Physics Department Computer Network 1987-present
Physics Olympics 1979-1988
Student Physics Society Advisor 1981-1986
Chairman, Intramural Athletics 1977-1982
Physics Program Review Committee 1982
Course Chairman Physics 161, 262, 263 - 1981
Graduate Laboratory Chairman 1982-1984, 1988
Revision of Physics 121 curriculum 1993

Campus Service – College

Chair, Search Committee for Astronomy Chair 2016-17
Chair, Search Committee for IPST Director 2013
Chair, Dean Review for the School of Public Policy 2013
Chair, CMNS Associate Dean for Research Search 2012
Chair, Search Committee for Geology Chair 2011
Chair CMPS Development Officer Search Committee 2008-2009
Chair IPST Director Review Committee 2007
Physical Sciences Core Review Committee 2007
Chair – CMPS Development Director Search 2004
Chair – IREAP Director Search 2001
Member – IPST Chair Search 2001
Engineering College retreat on curriculum revision 1993
College Teaching Committee 1993
Search Committee for Assistant Dean of CMPS 1987
Departmental Review Committee 1982-1983
Physics Department Chairman Selection Committee 1985
CMPS Junior Science and Humanities Symposium - 1992

Campus Service – University

Chair University Senate 2016-2017
University of Maryland Board of Trustees 2016-2017
Chair-Elect University Senate 2015-16
University Senate Executive Committee 2015-2017
Library Council 2015-2016
Chair University Research Council 2008-2014
Board of Governors, University of Maryland Alumni Association, 1995- present
Marquee Public Lecture on Global Energy 2011, 2012
Campus Facilities Naming Committee 2012-present
Football Tailgate Research Present. “Neutrino Physics in 7 Minutes”, Sept. 2011
Chair ORAA Review Committee 2009-2010
Chair Geology Chair Search 2010
Member Senate Merit Review Committee 2009-2010
Sub-Group Chair OIT Review Committee 2009-2010
Marquee Science Courses - Presentation to UM Board of Trustees – 2010
Marquee Course Committee 2007 - present
Chair - ORAA Director Search 2004
Campus Senate 1981-1983, 1987-1990, 1991-1993, 1996 – 1998, 2008-present
Member Orientation Review Committee 2006
Panelist Worldwide Event November 2007
Gemstone Advisory Committee 2002 - present
College Park Scholars Advisory Committee 2001- present
Orientation Speaker Summer 2006 - present

Speaker New Faculty Orientation 2004-Present
Chair CS Chair Review Committee 2005
Member VP for Research Search 2002
Chair University of Maryland Alumni Advocates Committee –2000-2001
Campus APT Committee, 1997 - 1998
Chair, Campus Senate Research Committee 1998-1999
Organizing Committee, Terrapin Pride Day 1997-98
Academic Advocates Committee, University Alumni Association 1996
Chair, Student Affairs Committee - Campus Senate 1991-1993
Technology & Innovation Week Laboratory Contact 1995
Keynote Speaker at Junior Science and Humanities Symposium for the State of Maryland, College Park, March 1994.
Panelist for Teaching Matters, Sponsored by LILLY-CTE Teaching Fellows, April 1994
Large Class TQI Committee - 1994
UMCP Clerical Award Committee - 1994
Summer Orientation Team - Undergraduates, July 1994.
Transfer Student Initiative Committee - 1992-1995
Minority Student Orientation 1993
New Student Orientation 1993
Campus Committee to review instructors/Lecturers 1992-1993
Panel for Revitalizing Education through Revaluating Teaching at College Park, March 1993
Subcommittee on Course and Program Evaluation 1989-1991 (Pease Implementation) General Education Committee 1988-1991 (Pease Implementation)
Campus Committee on Future Academic Computing 1989
Search Committee for Assist. Director of Computer Science Center for Networking 1989
Search Committee for Dean of Undergraduate Education 1987-1988
Instructional Computing Fair UMCP 1987
Lecturer in Honors 358 "Celebration of Learning" 1983
Member of MUPPET project 1984-87
Member of FULCRUM project 1984-87
Middle States Evaluation Curriculum Committee 1985-1986
Presentation of Councilors for Gifted and Talented Students 1986
Presentation to Gifted and Talented Minority Students 1986
Presentation to American-Soviet Exchange Students, AAPT, Univ. of MD., 1989
Represented UMCP Faculty before the Board of Regents 1987
Research Presentation of AAPT Workshops 1985, 1986, 1987, 1988
Organizing Committee - Maryland at Risk Day - 1991
Workshop for Maryland at Risk Day - 1991
Workshop for Transfer Students - 1992

Member of Panel discussion regarding Ways to Enhance Undergraduate Education at UMCP - 3/92

Other Non-University Committees, Memberships, Panels, etc.

Judge Intel (now Regeneron) Science Talent Search 2013-Present
Review Panel DOE Early Career Awards 2013
Review Panel DOE BigBOSS experiment 2011
Evaluator for the Intel (formerly Westinghouse) Science Talent Search 1983-2004
Quarknet – program for high school teachers 2003- present
Review Panel for DoE Non-Accelerator Programs at DoE Laboratories 2010
Review Panel for MIT High Energy Physics DoE Program 2010
Review Panel for DoE Early Career Awards 2009
Chair, Virginia Tech Physics Department Review Committee 2008
Chair, University of Utah Physics Department Review Committee 2006
HEPAP Sub-panel on University Programs 2006 - 2008
Head of Organizing committee for NeSS2002 meeting for the NSF 2002
SAGENAP member (NSF) 1998-2000, 2002-2003
External Advisor Board for the HIRES experiment 2002-present
IceCube review panel 2001
NSF Panel on Underground Science 2001
Nat. Organizing Committee 1999 International Cosmic Ray Conf. 1997 - 1999
PI Travel Grant for International Cosmic Ray Conference 1995 -1999
Member, Scientific & Educational Council, Maryland Acad. of Sci., 6/92-6/2003
NSF Review Panel on the Borexino Experiment 1997
State Task Force on Teachers Education 1993
Reviewed many proposals for NSF and DoE
National Research Council, Particles Panel of Astronomy and Astrophysics, 1989-1990
National Science Foundation--Science and Technology Center Review, 1988
National Science Foundation Science and Technology Center Site Visit Team, Princeton University, Univ. of Penn., 1988
NSF Review Committee for Calculus Reform Proposals, 1990
Scientific Advising Committee for Little Rock Workshop on Physics and Experimental Techniques of High Energy and VHE and UHE Gamma Ray Particle Astrophysics, Univ. of Arkansas, Little Rock, Arkansas, May 1989
Scientific Advising Committee for Michigan Workshop on UHE and VHE γ -ray Astronomy, October 1990
Organizing Committee for Utah Cascade Simulation Workshop, University of Utah, Salt Lake City, Utah, March 1989
Member Science, Math and Computer Science Magnet Program Oversight Committee of the Montgomery Board of Education 1983-1986
Organizing Comm. for October 1992 Astrophysics Meeting - Goddard/UMD - 1992
Advisor to Montgomery County Physics Teachers Association --Presented a Workshop on using demonstrations in teaching of basic physics - 1982

IV.F Community & Other Service

Commencement Address Richard Montgomery HS, 2016
Competing in the Intel Science Talent Search, Poolesville HS, 2016
Competing in the Intel Science Talent Search, Montgomery Blair HS, 2013- Pres.
Research Presentation to U.S. Physics Olympics Team, 1987-present
Presentation on STEM Careers, Rockville High School, 2011
Presentation at Watkins Mill High School, 2011, 2012
Presentation at Clarksburg High School, 2010, 2009, 2008, 2007
Presentation at Blake, High School, February 2009, February 2008, May 2007
Keynote Speaker, VIP K-16 workshop, UM Shady Grove, November 2005
Presentations to Physics classes at Bronx High School of Science – 2001, 2003
Presentations to Physics classes at Stuyvesant High School (NYC)– 2001, 02, 03, 05
Presentations at Quince Orchard High School, 2004, 2005, 2006
Presentation to AP Physics Classes at Richard Montgomery High School, 2003
Presentation to AP Physics Classes at Churchill High School, 2003
Presentation to AP Physics Classes at Thomas Jefferson High School May 2002
“Teachers as Scholars” Course for High School Teachers, November 2003
Keynote speaker Science Breakfast, Hyattsville Middle School, March 1997
Judge Montgomery County Science Fair, 1985-present
Presentations on "How to do a Successful Westinghouse Project" - Col. Zadok Magruder High School, Montgomery Blair High School, Walt Whitman High School, Thomas Jefferson High School 1996 - 1998
Grand Judge, Montgomery Blair Science Fair 1990, 1991, 1992
Lectures on Photography and Optics for High School Students in Montgomery and Prince George's County Public Schools, 1986-1988
Lecture on Ultra High Energy Gamma Ray Astronomy to Montgomery County Magnet students at Montgomery-Blair High School, March 1989
Presentation on "Coping with College Life" to UMCP residence halls, 1988, 1989, 1990
Montgomery County Public Schools Science Convocation, 1986
Research tutorial to American Association of Physics Teachers, 1984
TGIP presentation at JFK High School "Quarks, Leptons and the Structure of Matter, 1985
Light and Optics for Gifted and Talented Montgomery County Public Schools, 1986
Flower Valley PTA Executive Committee 1989-1995
Presentation on "Electromagnetism," at Magruder High School, 1991
Presentation on "Optics," at Brook Grove Elementary School, 1991
Presentation on "Electromagnetism," at Flower Valley School, 1991
Presentation on "Sound" at Flower Elementary School, 1992

Presentation to Howard County Public School Physics Teachers on "Inexpensive Demonstrations," 1993
Presentation on "Russia" to Wood Middle School, 1993
Presentation on "Electricity and Magnetism" at Wood Middle School, 1993
Presentation on "Newton's Laws" at Laytonsville Elementary School, 1993
Presentation on "Newton's Laws" at Laytonsville Elementary School, May 1994
High School dissemination Conference on Successful Magnet and Special Program Practices, March 1994
Testified Montgomery County Council on Global Access for Schools 1994
Presentation at Fields Road Elementary School on "Light and Color" 1994
Presentation Blair HS "How to make a successful Westinghouse project" 1994
Keynote speaker, "Science Night", Stedwick elementary, October 1994
Keynote speaker at "Science Awards Breakfast", Hyattsville Middle School 1994
Speaker for US Physics Olympic team 1994, 1995
Science Fair Judge, Piney Branch Elementary School, April 1995
Presentation at Germantown Elementary School, October 1995
Participant in Career Day, Hoover Middle School, December 6, 1995

Grand Judge, Silver Spring Community Science Fair 1996, (Blair, Einstein, Kennedy, Springbrook High Schools) March 20, 1996
Presentation Walt Whitman High School, What Judges Look for at Westinghouse Competition, October 15, 1996
Presentation Thomas Jefferson High School about Westinghouse Competition, April 96
Presentation Rockville High School, Photography and Optics, 1996

Publications before 2006

“Evidence for TeV gamma-ray emission from a region of the galactic plane”,
Atkins, R; Benbow, W; Berley, D; et al., PHYSICAL REVIEW LETTERS, 95 (25):
Art. No. 251103 DEC 16 2005

“Constraints on very high energy gamma-ray emission from gamma-ray bursts”
Atkins, R; Benbow, W; Berley, D; et al., ASTROPHYSICAL JOURNAL, 630 (2):
996-1002 Part 1 SEP 10 2005

“Search for dark matter WIMPs using upward through-going muons in Super-
Kamiokande” Desai, S; Ashie, Y; Fukuda, S; et al., (vol D 70, art no 083523,
2004) PHYSICAL REVIEW D, 70 (10): Art. No. 109901 NOV 2004

“Search for very high energy gamma rays from WIMP annihilations near the Sun
with the Milagro detector” Atkins, R; Benbow, W; Berley, D; et al., PHYSICAL
REVIEW D, 70 (8): Art. No. 083516 OCT 2004

“Search for dark matter WIMPs using upward through-going muons in Super-
Kamiokande” Desai, S; Ashie, Y; Fukuda, S; et al., PHYSICAL REVIEW D, 70 (8):
Art. No. 083523 OCT 2004

“Evidence for an oscillatory signature in atmospheric neutrino oscillations”, Ashie,
Y; Hosaka, J; Ishihara, K; et al., PHYSICAL REVIEW LETTERS, 93 (10): Art. No.
101801 SEP 3 2004

“Limits on the neutrino magnetic moment using 1496 days of Super-Kamiokande-I
solar neutrino data”, Liu, DW; Ashie, Y; Fukuda, S; et al., PHYSICAL REVIEW
LETTERS, 93 (2): Art. No. 021802 JUL 9 2004

“TeV gamma-ray survey of the northern hemisphere sky using the Milagro
observatory” Atkins, R; Benbow, W; Berley, D; et al., ASTROPHYSICAL
JOURNAL, 608 (2): 680-685 Part 1 JUN 20 2004

“Status of the IceCube Neutrino Observatory”, Ahrens, J; Bahcall, JN; Bai, X; et
al., NEW ASTRONOMY REVIEWS, 48 (5-6): 519-525 APR 2004

Limits on Very High Energy Emission from Gamma-Ray Bursts with the Milagro
Observatory R. Atkins et al. Astrophysical Journal Letters 604 (2004), L25

Observation of TeV Gamma Rays from the Crab Nebula with Milagro Using a
New Background Rejection Technique R. Atkins et al. Astrophysical Journal 595
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Observation of GeV Solar Energetic Particles from the 1997 November 6 Event Using Milagrito A. Falcone et al. *Astrophysical Journal* 588 (2003) 557-565

The High-Energy Gamma-Ray Fluence and Energy Spectrum of GRB 970417a from Observations with Milagrito R. Atkins et al. *Astrophysical Journal* 583 (2003) 824-832

“Limit on the neutrino magnetic moment using 1496 days of Super-Kamiokande-I solar neutrino data” D. W. Liu et al. [Super-Kamiokande Collaboration] arXiv:hep-ex/0402015

“Limits on very high energy emission from gamma-ray bursts with the Milagro Observatory” R. Atkins et al. [Milagro Collaboration] arXiv:astro-ph/0311389

“Precise measurement of the solar neutrino day/night and seasonal variation in Super-Kamiokande-I” M. B. Smy et al. [Super-Kamiokande Collaboration] *Phys. Rev. D* 69, 011104 (2004) [arXiv:hep-ex/0309011]

“A search for periodic modulations of the solar neutrino flux in Super-Kamiokande-I” J. Yoo et al. [Super-Kamiokande Collaboration] *Phys. Rev. D* 68, 092002 (2003) [arXiv:hep-ex/0307070]

“Observation Of GeV Solar Energetic Particles From The 1997 November 6 Event Using Milagrito” A. Falcone et al. *Astrophys. J.* 588, 557 (2003)

“Observation of TeV gamma rays from the Crab nebula with Milagro using a new background rejection technique” R. Atkins et al. [Milagro Collaboration] *Astrophys. J.* 595, 803 (2003) [arXiv:astro-ph/0305308]

“The Super-Kamiokande detector” Y. Fukuda et al. *Nucl. Instrum. Meth. A* 501, 418 (2003) Prepared for 8th International Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT 2002), Moscow, Russia, 24-28 Jun 2002

“Search for anti- ν_e from the sun at Super-Kamiokande-I” Y. Gando et al. [Super-Kamiokande Collaboration] *Phys. Rev. Lett.* 90, 171302 (2003) [arXiv:hep-ex/0212067]

“IceCube: The next generation neutrino telescope at the South Pole” J. Ahrens et al. [The IceCube Collaboration] *Nucl. Phys. Proc. Suppl.* 118, 388 (2003) [arXiv:astro-ph/0209556] To appear in the proceedings of 20th

International Conference on Neutrino Physics and Astrophysics (Neutrino 2002),
Munich, Germany, 25- 30 May 2002

“Search for supernova relic neutrinos at Super-Kamiokande” M. Malek et al.
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“The high-energy gamma-ray fluence and energy spectrum of GRB 970417a from
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“Determination of solar neutrino oscillation parameters using 1496 days of Super-
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Fukuda et al. [the Super-Kamiokande Collaboration] Astrophys. J. 578, 317
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“Status of the Milagro gamma ray observatory” R. Atkins et al. [Milagro
Collaboration] arXiv:astro-ph/0110513 Contributed to 27th International Cosmic
Ray Conference (ICRC 2001), Hamburg, Germany, 7-15 Aug 2001

“The MILAGRO gamma-ray observatory” J. E. McEnery et al. [Milagro
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26-30 Jun 2000

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Published in **Phys.Rev.Lett.85:3999-4003,2000** e-Print Archive: **hep-ex/0009001**

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e-Print Archive: **hep-ex/0005014**

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Days, The Super-Kamiokande Collaboration, Phys. Rev. Lett. 81 (1998) 1158-
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solar neutrino fluxes at Super-Kamiokande, The Super-Kamiokande
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Tev Observations Of Markarian 501 With The Milagrito Water Cerenkov Detector.
By Milagro Collaboration (R. Atkins *et al.*) Ap. J. Lett 525:L25-L28, 1999 Nov. 1

Evidence for oscillation of atmospheric neutrinos, The Super-Kamiokande
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Search for proton decay through $p \rightarrow \nu + K^+$ in a large water Cherenkov Detector,
The Super-Kamiokande Collaboration, Phys. Rev. Lett. 83(1999) 1529

Observation of the East-West Anisotropy of the Atmospheric Neutrino Flux, The
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Measurement of radon concentrations at Super-Kamiokande, The Super-Kamiokande Collaboration, Phys. Lett. 452(1999) 418-422

Measurement of the flux and zenith-angle distribution of upward through-going muons by Super-Kamiokande, The Super-Kamiokande Collaboration, Phys. Rev. Lett. 82 (1999) 2644

Calibration of Super-Kamiokande using an electron LINAC, The Super-Kamiokande Collaboration, Nucl. Instr. Meth. A421 (1999) 113-129

Search for Proton Decay via $p \rightarrow e^+ \pi^0$ in a Large Water Cherenkov Detector, The Super-Kamiokande Collaboration, Phys. Rev. Lett. 81 (1998) 3319

Study of the atmospheric neutrino flux in the multi-GeV energy range, The Super-Kamiokande Collaboration, Phys. Lett. B436 (1998) 33-41

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Alexandreas, D.E. with J.A. Goodman, et al., "Search for Emission of Ultra-High Energy Radiation from Active Galactic Nuclei," Astrophysical Journal, 418 (1993) p. 832

Alexandreas, D.E. with J.A. Goodman, et al., "A New Limit on the Rate-Density of Evaporating Black Holes" Phys. Rev. Letters, Vol 71, No. 16 (1993) p. 2524-2527

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