

Jessica Hodges Clayton

Work address

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Current research interests

LIGO data analysis

Implementing the first joint LIGO-Virgo search for gravitational waves from low mass compact binary coalescences

Radio data analysis

Analyzing data from radio telescopes to search for new pulsars

Education

UNIVERSITY OF WISCONSIN, Madison, WI	June 2002 – June 2007
Ph.D. in Physics, June 2007	
Adviser: Prof. Albrecht Karle	

VANDERBILT UNIVERSITY, Nashville, TN	Aug. 1998 – May 2002
B.A. in Physics and Mathematics, May 2002	
Magna Cum Laude	

Research and Teaching Positions

UNIVERSITY OF WISCONSIN, Milwaukee, WI	June 2007 – present
Post-doctoral researcher	

UNIVERSITY OF WISCONSIN, Madison, WI	
Research Assistant, AMANDA / IceCube	June 2003 – June 2007
Teaching Assistant	
Introductory Non-Calculus Based Physics	Aug. 2002 – Dec. 2002
Introductory Calculus Based Physics	Jan. 2003 – May 2003

VANDERBILT UNIVERSITY, Nashville, TN	
Teaching Assistant	
Introductory Physics for Engineers	Jan. 2002 – May 2002

Skills

Windows, Macintosh, UNIX Operating Systems
Applications: ROOT, PAW++, Microsoft Office, OpenOffice
Programming: Python, LaTeX, Perl, HTML

Outreach and Volunteer Activities

Served as a Leader for the UWM Astronomy Club, established for Milwaukee high school students and UWM undergraduates, Aug. 2008 to present

Organized open house activities to teach the general public about IceCube

- Science Expeditions 2004, 2005, 2006
- Wonders of Physics 2004, 2005, 2006

Wrote and filmed a segment for an IceCube outreach video

Taught elementary and middle school classes about neutrinos and life at the South Pole

- Wisconsin Center for Academically Talented Youth, 2005, 2006
- Erin School, Hartford, WI, 2006

Served as a Tour Guide for the UW-Madison L.R. Ingersoll Physics Museum

Leader, Cadette Girl Scout Troup 818, Aug. 2004 – Feb. 2006

Talks

J. Hodges for the IceCube Collaboration, *Recent Results from AMANDA and IceCube*, Frontiers in Contemporary Physics, Nashville, TN, May 2005.

J. Hodges for the IceCube Collaboration, *Search for Diffuse Flux of Extraterrestrial Muon Neutrinos with AMANDA-II*, American Physical Society April Meeting, Jacksonville, FL, April 2007.

J. Clayton for the LIGO and Virgo Collaborations, *Status of the First Search for Gravitational Waves from Compact Binary Coalescences with Joint LIGO-Virgo Data*, Gravitational Wave Data Analysis Workshop, San Juan, Puerto Rico, January 2009.

Numerous presentations at LIGO and IceCube collaboration meetings

Poster Presentations

J. Hodges for the IceCube Collaboration, *Multi-year search for a diffuse flux of muon neutrinos with AMANDA-II*, 2nd TeV Particle Astrophysics Workshop, Madison, WI, 2005.

Conference Proceedings

J. Hodges for the IceCube Collaboration, *Search for a Diffuse Flux of Extraterrestrial Muon Neutrinos using AMANDA-II Data from 2000 to 2003*, in Proceedings of the 29th International Cosmic Ray Conference, Pune, India, **5**, 115 (2005).

J. Hodges for the IceCube Collaboration, *Multi-year search for a diffuse flux of muon neutrinos with AMANDA-II*, in Proceedings of the 2nd TeV Particle Astrophysics Workshop, Madison, WI (2005).

Publications in Refereed Journals

(corresponding author) A. Achterberg et al. (IceCube Collaboration), *Multi-year search for a diffuse flux of muon neutrinos with AMANDA-II*, Phys. Rev. D **76**, 042008 (2007), Erratum D **77**, 089904 (2008).

G.C. Hill, J. Hodges, B. Hughey, A. Karle and M. Stamatikos, *Examining the balance between optimizing an analysis for best limit setting and best discovery potential*, Proc. of PHYSTAT 2005, Oxford (refereed).

A. Achterberg et al. (IceCube Collaboration), *Limits on the high-energy gamma and neutrino fluxes from the SGR 1806-20 giant flare December 27th, 2004 with AMANDA-II detector*, Phys. Rev. Lett. **97**, 221101 (2006).

A. Achterberg et al. (IceCube Collaboration), *On the selection of AGN neutrino source candidates for a source stacking analysis with neutrino telescopes*, Astroparticle Physics **26**, 282-300 (2006).

Achterberg et al. (IceCube Collaboration), *First year performance of the IceCube neutrino telescope*, Astroparticle Physics **26**, 155-173 (2006).

Achterberg et al. (IceCube Collaboration), *Limits on the muon flux from neutralino annihilations at the center of the Earth with AMANDA*, Astroparticle Physics **26**, 129-139 (2006).

M. Ackermann et al. (AMANDA Collaboration), *Optical properties of deep glacial ice at the South Pole*, Journal of Geophysical Research **111**, D13203 (2006).

M. Ackermann et al. (AMANDA Collaboration), *Limits to the muon flux from neutralino annihilations in the Sun with the AMANDA Detector*, Astroparticle Physics **24**, 459-466 (2006).

M. Ackermann et al. (AMANDA Collaboration), *Search for extraterrestrial point sources of high energy neutrinos with AMANDA-II using data collected in 2000 – 2002*, Phys. Rev. **D71**, 077102 (2005).

M. Ackermann et al. (AMANDA Collaboration), *Flux limits on ultra high energy neutrinos with AMANDA-B10*, Astroparticle Physics **22**, 339-353 (2005).

M. Ackermann et al. (AMANDA Collaboration), *Search for neutrino-induced cascades with AMANDA*, Astroparticle Physics **22**, 127-138 (2004).