

Andrea Albert

SLAC National Accelerator Laboratory
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Education:

- 2013 The Ohio State University
Ph.D. in Physics, “*Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope and Dark Matter Implications*”
Advisor: Dr. Brian Winer
- 2011 The Ohio State University
M.S. in Physics
- 2009 Rice University
B.S. in Astrophysics and Religious Studies

Research Interests:

Experimental high-energy particle astrophysics.
Specifically, indirect dark matter searches and the development of particle detectors used in those searches.

Research Experience:

- 2013-present Research Associate, SLAC National Accelerator Laboratory
“Postdoc” working on Fermi Large Area Telescope data analysis and Cherenkov Telescope Array prototype development
- 2010-13 Graduate Research Assistant, The Ohio State University
Perform data analysis with Fermi Large Area Telescope
- 2008 Undergraduate Research Assistant, Rice University
Obtained and analyzed optical data from T-Tauri stars

Fellowships and Awards:

- 2011 NSF Graduate Research Fellowship Honorable Mention
- 2009 Center for Cosmology and AstroParticle Physics Summer Research Fellowship
- 2009 Rice University Heaps Prize for Excellence in a Research Project
- 2007-08 Rice University Physics and Astronomy Summer Research Fellowship

Leadership and Professional Organizations:

- 2009-present Member of Fermi Large Area Telescope Collaboration
Coordinator of Dark Matter and New Physics Group 2014-present
- 2011-present Member of the American Physical Society
- 2009-13 Member of the Center of Cosmology and AstroParticle Physics
- 2009-13 Member of the Ohio State University Graduate Women in Physics
Advertising Coordinator 2011-13

Publications (significant contribution in bold):

1. **The Fermi-LAT Collaboration *Modeling Uncertainties near the Galactic Center and the 3 GeV Excess in preparation***
2. **The Fermi-LAT Collaboration *Search for Spectral Irregularities due to Photon-Axion-like Particle Oscillations with the Fermi Large Area Telescope in preparation***
3. The Fermi-LAT Collaboration *Resolving the Extragalactic gamma-ray Background above 50 GeV with Fermi-LAT* submitted to Phys. Rev. Lett.
4. The Fermi-LAT Collaboration *Search for Gamma-ray Emission from the Coma Cluster with Six Years of Fermi-LAT data* submitted to ApJ
5. The Fermi-LAT Collaboration *Development of the Model of Interstellar Emission for Standard Point-Source Analysis of Fermi Large Area Telescope Data* submitted to ApJ
6. **The Fermi-LAT Collaboration *Fermi-LAT Observations of High-energy Gamma-ray Emission Toward the Galactic Center* accepted for publication in ApJ arXiv:1511.02938**
7. The Fermi-LAT Collaboration *A Deep View of the Large Magellanic Cloud with 6 Years of Fermi-LAT Observations* accepted by A&A
8. The Fermi-LAT Collaboration *Multiwavelength Evidence for Quasi-periodic Modulation in the Gamma-ray Blazar PG 1553+113* ApJ 813 L41 (2015)
9. The Fermi-LAT Collaboration *An Extremely Bright Gamma-ray Pulsar in the Large Magellanic Cloud* Science 350, 6262, 801-805 (2015)
10. **The Fermi-LAT Collaboration *Searching for Dark Matter Annihilation from Milky Way Dwarf Spheroidal Galaxies with Six Years of Fermi-LAT Data* Phys. Rev. Lett. 115, 231301 (2015)**
11. **The Fermi-LAT Collaboration *Search for Extended Gamma-ray Emission from the Virgo Galaxy Cluster* ApJ 812 159 (2015)**
12. **The Fermi-LAT and DES Collaborations *Search for Gamma-ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data* ApJ Lett. 809, L4 (2015)**
13. **The Fermi-LAT Collaboration *Updated Search for Spectral Lines with Pass 8 Data* Phys. Rev. D. 91, 122002 (2015)**
14. **The Fermi-LAT Collaboration *Limits on Dark Matter Annihilation Signals from the Fermi LAT 4-year Measurement of the Isotropic Gamma-Ray Background* JCAP 1509 (2015) 09, 008**
15. The Fermi-LAT Collaboration *Fermi Large Area Telescope Third Source Catalog* ApJS 218 2, 23 (2015)
16. The Fermi-LAT Collaboration *The Spectrum of Isotropic Diffuse Gamma-ray Emission Between 100 MeV and 820 GeV* ApJ 799, 86 (2015)
17. **L. Tibaldo et al. *TARGET: toward a solution for the readout electronics of the Cherenkov Telescope Array* Proceedings of the 34th ICRC 932, 2015. 659 arXiv:1508.06296 (2015)**
18. **A. Massari et al. *Strong Optimized Conservative Fermi-LAT Constraints on Dark Matter Models from the Inclusive Photon Spectrum* Phys. Rev. D 91, 083539 (2015)**

19. **The Fermi-LAT Collaboration *Inferred Cosmic-ray Spectrum from Fermi Large Area Telescope Gamma-ray Observations of the Earth's Limb* Phys. Rev. Lett. 112 (2014) 151103**
20. The Fermi-LAT Collaboration *Fermi Establishes Classical Novae as a Distinct Class of Gamma-Ray Sources* Science 345 554-558 (2014)
21. The Fermi-LAT Collaboration *The Spectrum and Morphology of the Fermi Bubbles* ApJ 793, 64 (2014)
22. **The Fermi-LAT Collaboration *Dark Matter Constraints from Observations of 25 Milky Way Satellite Galaxies with the Fermi Large Area Telescope* Phys. Rev. D 89, 042001 (2014)**
23. The Fermi-LAT Collaboration *Search for Cosmic-ray-induced Gamma-ray Emission in Galaxy Clusters* ApJ 787, 18 (2014)
24. The Fermi-LAT Collaboration *Deep Broadband Observations of the Distant Gamma-ray Blazar PKS 1424+240* ApJ Lett. 785, L16 (2014)
25. **A. Albert et al *Search for 100 MeV to 10 GeV gamma-ray lines in the Fermi-LAT data and implications for gravitino dark matter in the μ VSSM* JCAP 10 (2014) 023**
26. The Fermi-LAT Collaboration *High-energy Gamma-ray Emission from Solar Flares: Summary of Fermi-LAT Detections and Analysis of Two M-Class Flares* ApJ 787, 15 (2014)
27. **The Fermi-LAT Collaboration *Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope and Dark Matter Implications* Phys. Rev. D. 88, 082002 (2013)**
28. The Fermi-LAT Collaboration *The Fermi All-sky Variable Analysis: A list of flaring gamma-ray sources and the search for transients in our Galaxy* ApJ 771, 57 (2013)
29. **W. Atwood et al. *Pass 8: Toward the Full Realization of the Fermi-LAT Scientific Potential 2012* Fermi Symposium proceedings eConf C121028 arXiv:1303.3514 (2013)**
30. **The Fermi-LAT Collaboration *On-orbit calibration and validation of the Fermi Large Area Telescope instrument response* ApJS 203, 4 (2012)**
31. The Fermi LAT Collaboration *Anisotropies in the Diffuse Gamma-Ray Background and Dark Matter with Fermi LAT: A closer look* MNRAS 414, 2040 (2011)
32. **The Fermi-LAT Collaboration *Fermi LAT Search for Dark Matter in Gamma-ray Lines and the Inclusive Photon Spectrum* Phys. Rev. D 86, 022002 (2012)**
33. The Fermi LAT-Collaboration *Search for Dark Matter Satellites using the FERMI-LAT* ApJ 747, 121 (2012)
34. **The Fermi-LAT Collaboration *Constraining Dark Matter Models from a Combined Analysis of Milky Way Satellites with the Fermi Large Area Telescope* Phys. Rev. Lett. 107, 241302 (2011)**

Invited Presentations:

1. A. Albert *Cosmic Clue: The Dark Matter Mystery* SLAC Public Lecture (11/17/2015)
2. A. Albert *Searching for Dark Matter with Gamma Rays*
Invited speaker at APS April Meeting (04/11/2015)
3. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Research Progress Meeting Seminar at LBNL (12/05/14)
4. A. Albert *Updated Spectral Line Search and Status of 133 GeV Feature with Pass 8 Data*
Plenary speaker at 5th Fermi Symposium (10/24/2014)
5. A. Albert *Cherenkov Telescope Array Science Prospects and Project Status*
Invited speaker at 10th INTEGRAL Workshop (09/18/2014)
6. A. Albert *Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope*
Invited speaker at the Vulcano Workshop (02/27/2014)
7. A. Albert *Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope and the Status of the 135 GeV Feature*
Invited Speaker at DM 2014 (UCLA) (02/27/2014)
8. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
HEP Seminar at Rice University (11/05/2013)
9. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Invited speaker at TAUP 2013 Dark Matter Parallel (09/12/13)
10. A. Albert *Results from Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope and Dark Matter Implications* Invited speaker at TevPA Dark Matter Parallel (08/29/13)
11. A. Albert *Search for Spectral Lines with the Fermi Large Area Telescope*
CCAPP Seminar at The Ohio State University (05/21/2013)
12. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Invited speaker at IceCube Particle Astrophysics Symposium (05/13/2013)
13. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Particle Physics Seminar at Harvard University (04/24/13)
14. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Particle Physics Seminar at the Perimeter Institute for Theoretical Physics (01/15/13)
15. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
HEP Seminar at the University of Virginia (12/05/12)
16. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
HEPMEP Seminar at the University of Illinois (11/16/12)
17. A. Albert *Search for Gamma-ray Spectral Lines with the Fermi Large Area Telescope*
Invited speaker at the 2012 Fermi Symposium (11/02/12)
18. A. Albert *Indirect Searches for Dark Matter with the Fermi Large Area Telescope*
Invited speaker at LANL Summer Workshop "LHC Now" (07/12/12)

Teaching and Mentoring:

May 2015	Lecturer at the Fermi Summer School
April 2015	Leader in Residence at Miss Porter's School, Farmington CT
2014-present	Supervisor for summer research interns at SLAC Alex Gibson via SULI program Sarah Vickery via SULI program Silvia Martocchia via INFN exchange program
2014-present	Mentored hometown (Bristol, CT) high school Chemistry class Live Q&A session archived on Youtube Special assembly speaker at Bristol Eastern High School (April 2015)
2011-13	Mentored incoming physics graduate students, The Ohio State University
2009-10	Graduate Teaching Assistant, The Ohio State University Led recitation and laboratory sessions for introductory physics classes in mechanics, electricity & magnetism, and waves & optics
2007	Teaching Assistant, Rice University Graded and led recitations for introductory computational and applied mathematics course in MATLAB

Published Books:

August 2016 [Searching for Dark Matter with Cosmic Gamma Rays](#)

Service & Outreach:

2014-present	Built and curated content for public website for CTA-US group
2014	Guest on "Game Changers: Silicon Valley" Episode 5 , Episode 10
2014-present	Popular physics blogger for KIPAC (http://kipac.stanford.edu/kipac/kipac-blog) <i>How special is "3 sigma"?</i> <i>Dark Concentration -- It Matters!</i>
2014-present	Lobbied Congress for High-Energy Physics
2014	Guest astrophysicist for live Q&A session on Gizmodo
2014	Featured physicist during " virtual field trip " of SLAC
2009 - 11	Directed the "Fun with Physics" booth at the Ohio State Fair & starred in daily demonstration shows as "Andrea the Giant"
2010-13	Perform physics demos at various Columbus schools and science events
2009	Councilor at "Girls Reaching to Achieve in Sports and Physics" camp

References:

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