

Adam Aurisano

Curriculum Vitae

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Affiliation:

Texas A&M University
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Present location:

CDF Experiment
Fermi National Accelerator Laboratory
P.O. Box 500, MS 318
Batavia, IL 60510-5011

EDUCATION

Ph.D., Physics, Texas A&M University, College Station, TX May 2012
Experimental Particle Physics

Thesis Topic: "Search for New Physics in the Exclusive Delayed $\gamma + \cancel{E}_T$ Channel in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV"

Advisor: Professor David Toback

M.S., Physics, Texas A&M University, College Station, TX 2007
Experimental Particle Physics

Masters Project: "Signals in the Co-annihilation Region of Supersymmetry at the LHC - Supersymmetry and Dark Matter"

Advisor: Professor David Toback

B.A., Physics, University of Chicago, Chicago, IL 2004

B.S., Mathematics, University of Chicago, Chicago, IL 2004

RESEARCH EXPERIENCE

CDF Collaboration, Texas A&M University 2007-Present

- Searched for new physics in the exclusive delayed $\gamma + \cancel{E}_T$ channel
- Studied the effect of electrons being reconstructed as photons on calorimeter timing
- Developed a method for calibrating track times
- Maintained and calibrated the EMTiming system
- Maintained and upgraded *ObjectMon*, a Run II online/offline object monitoring program
- Studied prospects for discovering large $\tan\beta$ Supersymmetry using multi-tau final states

CMS Collaboration, Texas A&M University 2005-2007

- Developed HCal trigger primitive emulation software
- Developed HCal trigger data quality monitoring software
- Developed tools for HCal trigger commissioning and validation (at CERN)

Phenomenology Activities, Texas A&M University 2004-2007

- Studied the prospects for discovering Supersymmetry in the co-annihilation region at the LHC using a multi-tau signature

- Developed a method to indirectly measure $M_{\tilde{\tau}} - M_{\tilde{\chi}_1^0}$ and $M_{\tilde{g}}$

ATLAS Collaboration, University of Chicago

2002-2004

- Developed and tested optimal filtering algorithms for Tile Calorimeter energy measurements
Advisor: Professor Frank Merritt

CDF Collaboration, University of Chicago

2001-2002

- Developed a database tool in Python for calculating integrated luminosity for runs satisfying selected conditions
Advisor: Professor Henry Frisch

PUBLICATIONS

- Search for New Physics in the Exclusive Delayed $\gamma + \cancel{E}_T$ Final State
CDF Collaboration (To be submitted to *Phys. Rev. Lett.* and *Phys. Rev. D*)
- Indirect Measurements of the $\tilde{\tau} - \tilde{\chi}_1^0$ Mass Difference and $M_{\tilde{g}}$ in the Co-annihilation Region of MSUGRA Models at the LHC
R. Arnowitt, A. Aurisano, B. Dutta, T. Kamon, N. Kolev, D. Toback, P. Simeon and P. Wagner,
Phys. Lett. B **649**, 73 (2007)

TALKS

- Study of the Timing of Backgrounds in the $\gamma + \cancel{E}_T$ Exclusive Final State
CDF Collaboration Meeting 2010
- Study of the Timing of $e \rightarrow \gamma_{fake}$ for Delayed Photon Analyses
CDF Collaboration Meeting 2009
- Signals in the Co-annihilation Region of Supersymmetry at the LHC
APS (Dallas, Texas) 2006
- Signals in the Co-annihilation Region of Supersymmetry at the LHC - Supersymmetry and Dark Matter
Texas Section of the APS (Waco, Texas) 2004

AWARDS

- Honor Society of Phi Kappa Phi 2009
- Texas Section of the APS Presentation Award - Graduate 2004
- Texas A&M University Graduate Merit Fellowship Aug. 2004 - July 2005

STUDENTS MENTORED

- Vaikunth Thukral (Ph.D. Student) Aug. 2011 - Present

TECHNICAL EXPERTISE

- Knowledge of C++, FORTRAN, Python, L^AT_EX, and Bash scripting.
- Experience with ROOT and RooFit physics analysis packages.

TEACHING EXPERIENCE

Texas A&M University

Fall 2005-Spring 2006

- Teaching Assistant for classical mechanics and electromagnetism with calculus for engineers. Duties included running a recitation section, a laboratory section, and proctoring and grading exams.