

CURRICULUM VITAE

Andrew Hamilton

PERSONAL DETAILS

Date of Birth: February 27, 1977
Citizenship: Canadian
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EDUCATION

- 10/1996 - 04/2000 *Bsc. Honours in Applied Physics at York University*
Thesis: "Efficiency of the York University Drift Chamber". A study of the efficiency of a 4 layer drift chamber.
Other Research: Assisted in construction of the Straw Tube Tracker for the Zeus experiment and developed an in situ wire tension measurement technique.
Supervisor: Dr. S. Bhadra
- 01/2001 - 09/2002 *M.Sc in Experimental Astroparticle Physics, University of Alberta*
Thesis: "ALTA: Alberta Large Area Time Coincidence Array". ALTA is a large area cosmic ray ground array. I developed calibration and analysis techniques for both the scintillator detectors and the GPS timing systems.
Supervisor: Dr. W.J. MacDonald
- 09/2002 - present *Ph.D. Candidate in Experimental HEP, University of Alberta*
Thesis: "Exclusive $e\bar{e}$ and $\gamma\gamma$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96\text{TeV}$ " These exclusive processes have never been observed in hadron-hadron collisions, yet they can reveal exciting potential for luminosity monitoring and measurement of Higgs properties at the LHC. Expected completion and publication in 3/2006.
Other Research: I am also participating in the construction of the LUCID luminosity monitor proposed for ATLAS.
Supervisor: Dr. J. Pinfold
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RESEARCH INTERESTS

My current research focus is exclusive processes in hadron-hadron collisions. This innovative process has promise to yield exciting measurements of the Standard Model Higgs properties like spin, parity, and mass (with a resolution of a few GeV/c^2). While this is my primary research interest, I am open to exploring other physics at the LHC including SUSY searches and other Higgs channels.

PUBLICATIONS

- CDF Author as of 08/2004
- A. Hamilton, *Evidence of Exclusive Photon Pair Candidates* CDFNOTE 7931 (2005)
- A. Hamilton, *Evidence of Exclusive Electron Pair Candidates* CDFNOTE 7930 (2005)
- M. Convery et. al., *Energy Calibration of the MiniPlug Calorimeters* CDFNOTE 7913 (2005)
- A. Hamilton, *Estimating Effective Luminosity for Rapidity Gap Physics* CDFNOTE 7556, (2005)
- A. Hamilton, *Upper Limit on Exclusive DPE Diphoton Cross Section* CDFNOTE 7368, (2004)
- W.Brouwer et.al., *The ALTA Electronics Systems* Nucl. Inst. & Meth. A 539 (2005) 595-605
- W.Brouwer et.al., *The ALTA GPS Based Timing Systems* Nucl. Inst. & Meth. A 493 (2002) 79-89

CONFERENCE PRESENTATIONS

- Forward Physics at the LHC 2005: *Search for exclusive ee and $\gamma\gamma$ at CDF* (12/12/2005)
- Forward Physics at the LHC 2004: *Exclusive Diphoton Production at CDF* (14/12/2004)
- Small-X and Diffraction 2003: *Exclusive Double Pomeron Exchange at CDF* (18/09/2003)
- Western Regional Nuclear & Particle Physics 2002: *ALTA Cosmic Ray Experiment* (16/02/2002)
- SALTA Workshop at Snowmass 2001: *The ALTA GPS Based Timing Systems* (07/04/2001)

TEACHING

- 01/2001 - 04/2002 *Teaching Assistant at University of Alberta*
Overview: Supervised undergraduate laboratories and graded the reports. In 05/2001 I received the GSA award for teaching excellence.
Supervisor: Michelle McCurdy
- 05/2001 & 05/2002 *Outreach Program at University of Alberta*
Overview: Participated as a mentor and lab demonstrator for high school students in an outreach program to attract high school students to the physical sciences.
Supervisor: Michelle McCurdy

ADMINISTRATION

09/2003 - 09/2004

Member of Graduate Students Association of Fermilab

Overview: Elected by the graduate student body at Fermilab, the Fermilab GSA represents the approximately 700 graduate students. Along with organizing social, sporting, and educational events for graduate students, I worked with the Fermilab User's Executive Committee to procure \$11,000 from the University Research Association to purchase 35 bicycles for graduate student transportation.

06/2004

Organized New Perspectives Conference 2004

Overview: The New Perspectives 2004 Conference was for graduate students and young post-docs to expose their work. The 2 day conference was held at Fermilab, invited speakers included Nobel laureate Leon Lederman and spokesperson of the g -2 experiment David Hertzog.

ACADEMIC AWARDS AND SCHOLARSHIPS

- 2002 Alberta Heritage Scholarship
- 1999 J.W. Megaw Prize in Experimental Physics
- 1996 York University Entrance Scholarship

OTHER RELEVANT ACTIVITIES

- Responsible for the calibration of the CDF Miniplug calorimeter(09/2004 – present)
- Assist in hardware maintenance of the CDF Beam Shower Counters and Roman Pots (09/2004 - present)
- Attended CTEQ Summer School on QCD Analysis and Phenomenology (05/2005)
- Responsible for monitoring of the CDF offline database (01/2003 - 12/2003)
- Completed 'ACE' shift at CDF (09/2003 - 12/2003)
- Attended Summer School at Erice, Italy (09/2003)
- Completed Accelerated C++ Course at Fermilab (07/2003)

