

## Curriculum Vitae

Andrew C. Haas

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### 1. Academic Degrees

PhD	University of Washington	2004	Physics
BS with Honors	Brown University	1998	Physics

### 2. Professional Experience

2004 - present      Postdoctoral Research Associate  
Department of Physics, Columbia University / Nevis Labs

Leading the DZero Higgs group since Fall 2007. Performed several analyses using data from Run II of the DZero experiment that address electro-weak symmetry breaking and the search for physics beyond the Standard Model. Published the most sensitive search for Higgs bosons in Supersymmetric models in 2005. Published a search for new long-lived particles in the context of split-Supersymmetry in 2007. Used an artificial neural-network to search for the Standard Model Higgs boson in the ZH dilepton channel, released in 2007. Convened the bottom-quark-jet identification group at DZero from 2005-2007. Calibrated DZero's hadronic calorimeter, leading to better reconstruction of jets. Continuing to support and improve the DZero DAQ system and event display.

Developed software for automated lifetime testing of the ATLAS LAr front-end boards (FEBs). Assisted with installation and commissioning of the FEBs on the ATLAS detector. Developed software for online data-quality monitoring of the FEBs. Performed a Higgs search in simulated ATLAS data using the ATHENA framework. Contributed to the ATLAS event display and outreach and have been responsible for calorimeter display since 2005.

1999 - 2004      Research Assistant  
Department of Physics, University of Washington, Seattle, WA

Performed a search using data from Run II of the DZero experiment at Fermilab to set a limit on the production of Higgs bosons in the MSSM, published 2005. Played major role in design, implementation, commissioning, and support of a new Level 3 trigger / data acquisition (DAQ) system for the DZero experiment based on commodity hardware and open-source software, leading to a publication in 2004. Implemented a monitoring system for the new data acquisition system at DZero, published in 2003. Developed software for the triggering and reconstruction of events from DZero, including a new algorithm for reconstructing charged particle tracks and event vertices, published in 2000.

1998 - 1999      Research Assistant / Teaching Assistant  
Department of Physics, University of Washington, Seattle, WA

Worked on simulations of the upcoming GLAST experiment. Worked on the DZero event display and debugged the detector geometry model. Taught laboratory classes in classical mechanics and E&M.

### 3. Other Experience and Activities

Summer 2003      SLAC Summer Institute  
Menlo Park, CA

Attended lectures and took part in discussion sessions focused on the interface between Cosmology and High-Energy Physics.

2002 - 2003      Graduate Student Representative  
Fermilab, Batavia, IL

Organized monthly talks, out-reach events, and a student conference. Took part in a trip to Washington, D.C. to raise awareness of High-Energy Physics in the Senate and Congress.

Summer 1999      Software Developer  
Pacific Northwest National Laboratories, Richland, WA

Developed software based on C++ and ROOT for the real-time monitoring of rare radioactive isotope concentrations.

### 4. Professional Affiliations

American Physical Society  
American Association for the Advancement of Science  
Elected member of Sigma Xi, The Scientific Research Society

### 5. Awards

2003      American Physical Society Northwest Section  
Best Student Talk

2002      DZero Collaboration Meeting  
Outstanding graduate-student contributions

## 6. Selected Publications

DZero Collaboration, "Search for stopped gluinos from p-anti-p collisions at  $s^{1/2} = 1.96\text{-TeV}$ ", Phys.Rev.Lett.99:131801,2007.

DZero Collaboration, "Search for neutral supersymmetric Higgs bosons in multijet events at  $s^{1/2} = 1.96\text{-TeV}$ ", Phys.Rev.Lett.95:151801,2005.

B.Angstadt, *et al.*, "The DZERO level 3 data acquisition system", IEEE Trans.Nucl.Sci.51:445-450, 2004.

A. Haas *et al.*, The DZero online monitoring and automatic DAQ recovery, FERMILAB-CONF-03-467, CHEP-2003-TUGP011, Jun 2003, physics/0306195.

A. Haas, "Simultaneous Tracking and Vertexing with Elastic Templates", Proceedings of the VII International Workshop on Advanced Computing and Analysis Techniques in Physics Research, Oct 2000.

## 7. Presentations, Papers, and Posters

A. Haas (2007), "Flavour Tagging: State of the Art", ALCPG, Fermilab, <http://ilc.fnal.gov/conf/alcpg07/>.

A. Haas for the DZero and CDF Collaborations (2007), "Searches for Non-SM Higgs at the Tevatron", Moriond QCD 2007.

A. Haas for the DZero Collaboration (2006), "Search for the SM Higgs boson in the  $ZH \rightarrow \mu\mu b\bar{b}$  channel", preliminary results for DPF 2006, <http://www-d0.fnal.gov/Run2Physics/WWW/results/prelim/HIGGS/H27/>.

A. Haas for the ATLAS Collaboration (2006), "MSSM Higgs Prospects at ATLAS", DPF, Hawaii.

A. Haas for the DZero Collaboration (2006), "New Phenomena Searches at DZero", Exploring New Phenomena Workshop, <http://home.fnal.gov/~gerstein/NPworkshop/>.

A. Haas for the DZero Collaboration (2006), "Evidence for  $Z \rightarrow b\bar{b}$  decays at DZero", preliminary results for ICHEP 2006, <http://www-d0.fnal.gov/Run2Physics/WWW/results/prelim/HIGGS/H22/>.

A. Haas for the DZero Collaboration (2005), "Search for non-SM Higgs at DZero", SUSY 2005, Durham, UK.

A. Haas for the DZero Collaboration (2004), "Higgs Searches at DZero", Lake

Louise, Alberta, CA.

A. Haas, "A search for neutral Higgs bosons at high  $\tan\beta$  in multi-jet events from  $p$  anti- $p$  collisions at  $s^{1/2} = 1960\text{-GeV}$ ", FERMILAB-THESIS-2004-26.

A. Haas, *et al.* (2003), "Dataflow in the DZero Level3 Trigger / DAQ System", Proceedings of the 2003 Nuclear Science Symposium, Section N36-71.

A. Haas for the DZero Collaboration (2003), "Recent Results from DZero", American Physics Society Northwest Session, Portland, OR.

A. Haas for the DZero Collaboration (2003), "Search for Neutral Supersymmetric Higgs Bosons at the  $D\bar{O}$  Detector at the Tevatron in Run II", American Physical Society April Meeting, Philadelphia, PA.

A. Haas, *et al.* (2002), "Ethernet-based Data Acquisition for the DZero Experiment at Fermilab", Proceedings of the 2002 World Multi-Conference on Systematics, Cybernetics, and Informatics.

A. Haas for the DZero Collaboration (2002), "Search for Neutral Supersymmetric Higgs Bosons at the  $D\bar{O}$  Detector at the Tevatron in Run II", American Physical Society April Meeting, Albuquerque, NM.

A. Haas (1998), "The Search for the Stau at DZero", Senior Thesis, Brown University.