
CURRICULUM VITAE

Alec T. Habig

Professor, Department of Physics & Astronomy University of Minnesota Duluth

(I) Appointments

June 2011-Present	Professor of Physics, University of Minnesota Duluth
June 2005-May 2011	Associate Professor of Physics, University of Minnesota Duluth
Sept. 2000-May 2005	Assistant Professor of Physics, University of Minnesota Duluth
Aug.-Oct. 2014	Visiting Research Fellow, University of Sussex
Aug. 2007-Aug. 2008	Visiting Scientist, Fermilab Neutrino Department
Jan. 2011-Aug. 2014	UMD Physics Department Head
2006-2010 & 2017-2020	UMD Physics Director of Graduate Studies
2004-present	Graduate Faculty, University of Minnesota Twin Cities
2008-2014	Graduate Faculty, University of Washington

(II) Professional Preparation

Postdoctoral Research	Sept. 1996-Aug. 2000	Boston University Particle Astrophysics Group
Ph.D. in Astrophysics	Sept. 1996	Indiana University (adviser: Prof. Stuart Mufson)
M.A. in Astronomy	Feb. 1992	Indiana University
B.S. in Physics	May 1989	Wright State University (adviser: Prof. David Wood)

(III) Activities

Research:

- Co-founder of SNEWS, Executive Chair of SNEWS2.0.
- Convener of the NOvA “Exotics” working group, member of NOvA DAQ group.
- Convener of DUNE DAQ Consortia Facilities, Infrastructure, and Integration Working Group; member of DUNE Low Energy Physics group.
- Assoc. Director of Soudan Mine Underground Lab and NOvA Far Detector Lab (6/2009–present).
- Convenor, MINOS Non-Oscillation Non-Accelerator Physics working group; MINOS Run Coordinator 2007-8, Far Detector Ops Manager 2001-7).

Synergistic Activities:

- UMD Representative to NASA’s Minnesota Space Grant Consortium.
- Regional Chair, Intel Science Fair Scientific Review Committee; FIRST Robotics Mentor.
- Conference Organizer: Neutrino 2020; Weak Interactions and Neutrinos 2021.
- Member of the American Physical Society, Divisions of Particles & Fields and Astrophysics; Member of the American Astronomical Society, High Energy Astrophysics Division.

Awards and Recognition:

- 2016 Breakthrough Prize in Fundamental Physics, with members of the Super-Kamiokande Collaboration for “Investigations of Neutrino Oscillations”.
- University of Minnesota McKnight Land Grant Professor, 2004-2006.
- Asahi prize, 1998, with members of the Super-Kamiokande Collaboration for the “Discovery of the Finite Mass of Neutrinos”.
- INFN Graduate Research Fellowship, Laboratori Nazionale del Gran Sasso, 1992-1993.

CURRICULUM VITAE

Research Students Mentored: MS Students: Radwan Parvez, Nick Skuza, Dalton Myers, Adam Moren, Mohamed Elashri, Dan Edie, Prasanth Sukumar, Justin Vassel, Fernanda Psihas, Eric Thrane (*UW PhD*), Brian Bock, Prabhat Bhattarai, D. Jason Koskinen, Eric Grashorn (*also PhD advisor*), Kristine Washburn (*UW MS*) Andrew Clough.

UG Students: Joey Kreuger, Chase Heinen, Dash Anderson, Bryana Saric, Sam Fogarty, Anna Heggesteun, Bryce Remple, Justin Mueller, Olivia Zigler, Krissie Nusbich, Travis Olson, Erik Carlson, John Eastman, Jason Staab, Kirsti Hakala, Rose Smith, Steve Farrell, Jeff Sharkey, Dan Cinnamon, Rick Kreuger, Eric Mislivec, Brandy Forsman, Phil Sexton, Dan Gastler, Soleh Dib, JD Hoverman, Tarun Kapoor, Charlie Fox, Eric Hall, Mike Heller, Garrett McKelvey, Katrina Korman (*High School*).

(IV) Selected Principle Publications

“SNEWS 2.0: a next-generation supernova early warning system for multi-messenger astronomy”,

S. Al Kharusi *et al* (SNEWS2.0), *New Journal of Physics*, **23** 031201. (2021)

“Search for slow magnetic monopoles with the NOvA detector on the surface”,

M.A. Acero *et al* (NOvA), *Phys. Rev. D* **103**, 012007. (2021)

“Supernova neutrino detection in NOvA”,

M.A. Acero *et al* (NOvA), *JCAP* **10**, 014. (2020)

“The Supernova Early Warning System”,

A. Habig & K. Scholberg, *Nature Review Physics* **2**, 458. (2020)

“Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector”,

M.A. Acero *et al* (NOvA), *Phys. Rev. D* **99** 122004. (2019)

“Measurement of the Multiple-Muon Charge Ratio in the MINOS Far Detector”,

P. Adamson *et al* (MINOS), *Phys. Rev. D* **93** 052017. (2016) (*arXiv:1602.00783*)

“Precision measurement of the speed of propagation of neutrinos using the MINOS detectors”,

P. Adamson *et al* (MINOS), *Phys. Rev. D*, **92** 052005. (2015)

“Observation of Seasonal Variation of Atmospheric Multiple-Muon Events in the MINOS Near and Far Detectors”, P. Adamson *et al* (MINOS), *Phys. Rev. D*, **91** 112006. (2015)

“Observation of muon intensity variations by season with the MINOS Near Detector”,

P. Adamson *et al* (MINOS), *Phys. Rev. D*, **90** 012010. (2014)

“Comparisons of annual modulations in MINOS with the event rate modulation in CoGeNT”,

P. Adamson *et al* (MINOS), *Phys. Rev. D*, **87** 032005. (2013)

“Observation in the MINOS far detector of the shadowing of cosmic rays by the sun and moon”,

P. Adamson *et al* (MINOS), *Astroparticle Physics*, **34**, 457. (2010)

“The atmospheric charged kaon/pion ratio using seasonal variation methods”,

E.W. Grashorn, J.K. deJong, M.C. Goodman, A. Habig, M.L. Marshak, S. Mufson, S. Osprey, and P. Schreiner, *Astroparticle Physics* **33**, 131. (2010)

“Observation of muon intensity variations by season with the MINOS far detector”,

P. Adamson *et al* (MINOS), *Phys. Rev. D* **81**, 012001. (2010)

“Sudden stratospheric warmings seen in MINOS deep underground muon data”,

S.Osprey *et al* (MINOS), *Geophys. Res. Lett.* **36**, L05809. (2009)

“Search for Astrophysical Neutrino Point Sources at Super-Kamiokande”,

E.Thrane *et al* (Super-K), *Astrophysical Journal* **704**, 503-512. (2009)

CURRICULUM VITAE

- “Search for Neutrinos from GRB 080319B at Super-Kamiokande”,
E. Thrane *et al* (Super-K), *Astrophysical Journal* **697**, 730-734. (2009)
- “Study of TeV neutrinos with upward showering muons in Super-Kamiokande”,
S. Desai *et al* (The Super-K), *Astroparticle Physics* **29**, 42. (2008)
- “The Magnetized Steel and Scintillator Calorimeters of the MINOS Experiment”,
D.G. Michael *et al* (MINOS), *Nucl. Instr. & Meth.*, **A596**, 190. (2008)
- “Search for Supernova Neutrino Bursts at Super-Kamiokande”,
M. Ikeda *et al* (Super-K), *Astrophysical Journal*, **669**, 519. (2007)
- “Measurement of the atmospheric muon charge ratio at TeV energies with MINOS”,
P. Adamson *et al* (MINOS), *Phys. Rev. D*, **76**, 052003. (2007)
- “High energy neutrino astronomy using upward-going muons in Super-Kamiokande-I”,
K. Abe *et al* (Super-K), *Astrophysical Journal*, **652**, 198. (2006)
- “Search for Diffuse Astrophysical Neutrino Flux Using Ultra-High Energy Upward-Going Muons in Super-Kamiokande I”, M.E.C. Swanson *et al* (Super-K), *Astrophysical Journal*, **652**, 206. (2006)
- “SNEWS: The SuperNova Early Warning System”,
P. Antonioli *et al* (SNEWS), *New Journal of Physics*, **6** 114. (2004)
- “Search for Dark Matter WIMPs using Upward Through-going Muons in Super-Kamiokande”,
S. Desai *et al* (Super-K), *Phys. Rev. D* **70**, 083523. (2004)
- “The Super-Kamiokande Detector”,
S. Fukuda *et al* (Super-K), *Nucl. Instr. & Meth.* **A501**, 418. (2003)
- “Search for the sidereal and solar diurnal modulations in the total MACRO muon data set”,
M. Ambrosio *et al* (The MACRO Collaboration), *Phys. Rev. D* **67**, 042002. (2003)
- “Search for cosmic ray sources using muons detected by the MACRO experiment”,
M. Ambrosio *et al* (MACRO), *Astroparticle Physics* **18**, 615. (2003)
- “The MACRO detector at Gran Sasso”,
M. Ambrosio *et al* (MACRO), *Nucl. Instr. & Meth.*, **A486**, 663. (2002)
- “Measurement of the flux and zenith angle distribution of upward through-going muons by Super-Kamiokande”, Y. Fukuda *et al* (Super-K), *Phys. Rev. Lett.* **82**, 2644. (1999)
- “Evidence for oscillation of atmospheric neutrinos”,
Y. Fukuda *et al* (Super-K), *Phys. Rev. Lett.* **81**, 1562. (1998)
- “Neutrino astronomy with the MACRO detector”,
M. Ambrosio *et al* (MACRO), *Astrophysical Journal* **546**, 1038. (2001)
- “Neutrino-induced upward-going stopping muons in Super-Kamiokande”,
Y. Fukuda *et al* (Super-K), *Phys. Lett.* **B467**, 185. (1999)
- “Calibration of Super-Kamiokande using an electron LINAC”,
M. Nakahata *et al* (Super-K), *Nucl. Instr. & Meth. A* **421** 113. (1999)
- “Observation of the shadowing of cosmic rays by the Moon using a deep underground detector”,
M. Ambrosio *et al* (MACRO), *Phys. Rev. D* **59** 012003. (1999)
- “Seasonal variations in the underground muon intensity as seen by MACRO”,
M. Ambrosio *et al* (MACRO), *Astroparticle Physics*, **7**, 109. (1997)
- “Coincident observation of air Cherenkov light by a surface array and muon bundles by a deep underground detector”, D.S. Levin, B.C. Barish, E. Diehl, A.T. Habig, J. Handel, M. Kertzman, S. Musson, J. Musser, S. Nutter, G. Sembroski, G. Tarlé, and MACRO, *Phys. Rev. D*, **50**, 3046. (1994)