

## Curriculum Vitae: Dr. Heidi Katariina Nykyri

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**Date of Birth:** January 1st, 1975 , **Citizenship:** Finnish Citizen, US Permanent Resident

### Education:

Ph.D., Physics 2002 University of Alaska, Fairbanks

M.S., Computational Physics 2002 University of Alaska, Fairbanks

M.S., Theoretical Physics 1998 University of Helsinki, Finland

### Appointments:

**2010-present:** Tenured Associate Professor of Physics, Physical Sciences Department, Embry-Riddle Aeronautical Univ., FL, USA

**2007-2010:** Assistant Professor of Physics, Physical Sciences Department, Embry-Riddle Aeronautical Univ., FL, USA

**2002-2007:** Postdoctoral Research Associate and Academic Tutor, Physics Department, Imperial College London, UK

**1999-2002:** Research Assistant, The Geophysical Institute, University of Alaska Fairbanks, USA

**1998-1999:** Teaching Assistant, Physics Department, University of Alaska Fairbanks, USA

**Summer 1998:** Summer Intern, Solar System Division, ESTEC, European Space Agency, The Netherlands

### Professional Activities:

- Geospace Environment Modeling (GEM) Steering Committee member and Dayside Science Research Area Coordinator 2012-2018
- IAGA Boundary layers session organizer, 2013-2015
- Geospace Environment Modeling (GEM) Magnetosheath Focus Group leader, 2010-2014.
- Co-Investigator for Flux Gate Magnetometer (FGM) onboard Cluster spacecraft, 2007-present.
- Member of International Space Science Institute (ISSI) working group “Flow-driven Instabilities of the Sun-Earth System “ 2011-2014.
- Member of International Space Science Institute (ISSI) working group “Plasma Entry and Transport in the Plasma Sheet”, 2010-2013.
- Reviewer for: JGR-space physics, Geophysical Research Letters, Annales Geophysicae, Journal of Atmospheric and Solar terrestrial Physics, NSF proposals
- Panel Review Member: NSF GEM , NASA HGI-program, joint NSF/NASA/Airforce panel.
- Chair and organizer of the “Multipoint Measurements in Space”-session at the spring AGU meeting, 2008, In Ft Lauderdale, FL

## **Selected Publications** (see full list at <http://scholar.google.com/citations?user=PPZpOjIAAAAJ&hl=en>):

**Nykyri, K.**, and C. Foullon, First magnetic seismology of the CME reconnection outflow layer in the low corona with 2.5-D MHD simulations of the Kelvin-Helmholtz instability, *Geophys. Res. Lett.*, 40, 4154–4159, doi:10.1002/grl.50807, 2013

**Nykyri, K.**, Impact of MHD shock physics on magnetosheath asymmetry and Kelvin-Helmholtz instability, *J. Geophys. Res. Space Physics*, 118, 5068–5081, doi:10.1002/jgra.50499, 2013

Dimmock, A. P., and **Nykyri K.** The statistical mapping of magnetosheath plasma properties based on THEMIS measurements in the magnetosheath interplanetary medium reference frame, *J. Geophys. Res. Space Phys.*, 118, 4963–4976, doi:10.1002/jgra.50465, 2013

**Nykyri K.**; Otto, A.; Adamson, Dougal, E; Mumme, J. Cluster observations of a cusp diamagnetic cavity: Structure, size, and dynamics, *JOURNAL OF GEOPHYSICAL RESEARCH*, VOL. 116, A03228, 27 PP., 2011, doi:10.1029/2010JA015897, 2011

**Nykyri K.**; Otto, A.; Adamson, E.; Tjulin, A., On the origin of fluctuations in the cusp diamagnetic cavity, *JOURNAL OF GEOPHYSICAL RESEARCH*, VOL. 116, A06208, 13 PP., 2011, doi:10.1029/2010JA015888, 2011

**Nykyri, K.**, A. Otto, B. Lavraud, C. Mouikis, L. Kistler, A. Balogh, and H. Réme, Cluster observations of reconnection due to the Kelvin-Helmholtz instability at the dawn side magnetospheric flank. *Ann. Geophys.* 24, 2619–2643, 2006

**Nykyri K.**, B. Grison, P. J. Cargill, B. Lavraud, E. Lucek, I. Dandouras, A. Balogh, N. Cornilleau-Wehrin, and H. Réme, Origin of the turbulent spectra in the high-altitude cusp: Cluster spacecraft observations. *Ann. Geophys.* 24, 1057–1075, 2006

**Nykyri K.**, Cargill P. J., Lucek E.A., Horbury T. S., Lavraud B., Balogh A., Dunlop M. W., Bogdanova Y., Fazarkerley A., Dandouras I. and Reme H, “Cluster Observations of Magnetic Field Fluctuations in the High- Altitude Cusp,” *Annales Geophysicae* (2004) 22: 2413 - 2429.

**Nykyri K.** and Otto A., Influence of the Hall Term on the KH Instability and reconnection inside KH Vortices, *Annales Geophysicae*, Vol.22,935, 2004

**Nykyri K.**, P. J. Cargill, E. Lucek, T. S. Horbury, A. Balogh, B. Lavraud, I. Dandouras, and H. Rème (2003). Ion cyclotron waves in the high altitude cusp: Cluster observations at varying spacecraft separations. *Geophys. Res. Lett.* 30(24), 2263–2269, 2003

**Nykyri K.** and A. Otto, “Plasma Transport at the Magnetospheric Boundary due to Reconnection in Kelvin-Helmholtz vortices,” *Geophysical Research Letters*, Volume 28, Issue 18, p. 3565-3568, 2001.

## **Mentoring:**

**ERAU Undergraduate Students Supervised:** Joern Mumme (2008-2009), Justin Beales (2008-2009), Emily Dougal (2009-2012), Megan Harvey (summer 2011)

**ERAU M.S Thesis Supervised:** Christina Chu (2010-2011), Emily Dougal (2012-2013), Thomas Moore (2011-2012)

**ERAU Ph.D Thesis Supervised:** Thomas Moore (2012-present)

**Post Doctoral Associates Supervised:** Dr. Andrew Dimmock (2012-2013), Dr. Eric Adamson (2012-2013)

**Teaching Experience:** Undergraduate Classes: Electricity and Magnetism (Physics III) with Modern Physics for Engineering Majors (taught 10 times between 2007-2013), Physics III with circuits and AC-systems for Engineering Physics Majors (taught in fall 2008), Quantum Physics (spring 2013); Graduate Classes: Advanced Space Physics (fall 2009, spring 2011)