

Timothy A. Cassidy

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Education

University of Virginia (2003-2008)

Ph.D., Engineering Physics

Adviser: R. E. Johnson

Dissertation: Europa's tenuous atmosphere.

Reed College (1998-2002)

B.A., Physics

Adviser: Mary James

Thesis: The Gibbs Phenomenon and Equilibrium Charge Distribution on an Infinitesimally Thin Needle

Awards

2006 to 2008: NASA Graduate Student Researcher Program (GSRP) fellowship through NASA Langley Research Center. Advised by NASA researchers Russell DeYoung and Jay Bergstralh.

2006 to 2008: Virginia Space Grant Consortium Graduate Research Fellowship.

Publications

Cassidy, T. A. and R. E. Johnson (2005). Monte Carlo model of sputtering and other ejection processes within a regolith. *Icarus* 176, pp. 499-507.

Cassidy, T. A., R. E. Johnson, M. A. McGrath, M. C. Wong, and J. F. Cooper (2007), The spatial morphology of Europa's near-surface O₂ atmosphere. *Icarus* 191, pp. 755-764.

Cassidy, T. A., R. E. Johnson, P. E. Geissler, and F. Leblanc (2008). Simulation of Na D emission near Europa during eclipse. *Journal of Geophysical Research (Planets)* 113 E2.

Cassidy, T. A., R. E. Johnson, O. J. Tucker (2009). Trace Constituents of Europa's Atmosphere. *Icarus*.

Cassidy, T. A., R. Mendez, P. Arras, R. E. Johnson, M. F. Skrutskie (2009). Massive Satellites of Close-In Gas Giant Exoplanets. *Astrophysical Journal*.

Currently writing a chapter, with several coauthors, for a book on exchange processes in the outer solar system.

As coauthor:

Johnson, R. E., M. H. Burger, T. A. Cassidy, F. Leblanc, M. Marconi, W. H. Smyth (2009). Composition and Detection of Europa's Sputter-induced Atmosphere. Chapter in *Europa*, Eds. R. T. Pappalardo, W. B. McKinnon, K. K. Khurana. University of Arizona Press.

Coates, A. J., G.H. Jones, G.R. Lewis, A. Wellbrock, F.J. Crary, R.E. Johnson, T.A. Cassidy, T.W. Hill (2009). Negative Ions in the Enceladus Plumes. P.S.S., In Press.

Tseng, W. L., W. H. Ip, R. E. Johnson, T. A. Cassidy, M. K. Elrod (2009). The Structure and Time Variability of the Ring atmosphere and ionosphere. Submitted.

2 chapters in upcoming book on exchange processes in the outer solar system.

Presenter or coauthor for 26 presentations and posters at conferences.

Employment

Internship at Dept. of Energy's Sandia National Laboratories during my high school senior year and following three summers. Worked under adviser Gary Phipps on a variety of projects relating to light detection. Also, while an undergraduate, I interned at the Dept. of Energy Princeton Plasma Physics Laboratory where I spent a summer studying non-neutral plasmas.

2000-2002: Licensed Nuclear Reactor Operator at Reed College Reactor Facility (part time while attending Reed College).

Fall 2002: Studied zirconium alloy oxidation as it relates to spent nuclear fuel dry storage casks at Sandia National Laboratories.

2003-2008: Graduate Research Assistant at the University of Virginia.

January-October, 2009: Postdoctoral Researcher at the University of Virginia.

Miscellaneous Activity

2004-2005: Participated in instrument design proposal for the Lunar Reconnaissance Orbiter, a mass spectrometer called "LASSIE."

Summer 2005: designed a Europa lander with Jet Propulsion Lab's Team X during the "Planetary Science Summer School"