

Nicholas A. Bond

CONTACT INFORMATION	400 Grist Mill Crossing Severna Park, MD 21146	609-651-0410 (Cell) nbond@physics.rutgers.edu
EDUCATION	Ph.D. in Astrophysical Sciences (completed masters-level coursework in both physics and astrophysics), January 2008 Princeton University, Princeton, NJ B.S. in Astronomy/Astrophysics with Honors, May 2002 The Pennsylvania State University, University Park, PA	
RESEARCH EXPERIENCE	Postdoctoral Associate, Rutgers University, 2007-present <ul style="list-style-type: none">• Determined the size and shape distributions of high-redshift galaxies through analysis of space-based imaging data (Bond et al. 2009, Gronwall et al., in preparation)• Developed data reduction pipeline for optical broadband and narrowband imaging taken with MOSAIC camera on the CTIO 4-m telescope (Guaita et al., in preparation) Graduate Research Assistant, Princeton University, 2002-2007 <ul style="list-style-type: none">• Invented and implemented a technique for identifying large-scale structures in three-dimensional distributions using the smoothed Hessian matrix (Bond, Strauss, & Cen 2009, Bond 2008)• Discovered and quantified smooth velocity gradient in the Milky Way disk using three-dimensional visualization of samples of ~ 30 million stars (Bond et al., 2009)• Studied the mass-temperature relationship of galaxy clusters using Monte Carlo simulations Undergraduate Research Assistant, Penn State, 1999-2002 <ul style="list-style-type: none">• Developed queuing software for the Hobby-Eberly Telescope	
FELLOWSHIPS & AWARDS	Schreyer Honors College Dean's Award for Research Achievement, 2002 Mercury Astronaut Fellowship, 2001	
COMPUTER SKILLS	Expert: software and data analysis with Perl, Fortran, and Supermongo Intermediate: software and data analysis with IDL, C, and Bash shell Intermediate: writing software in PHP and Tcl/Tk, incorporating MySQL Expert: writing with markup languages LaTeX and HTML Extensive experience with Unix, Linux, Mac OS X, and Windows operating systems	

PUBLICATIONS

34 publications, including one invited review article, 14 papers in refereed journals (including two under review), five conference proceedings, and 13 conference abstracts/circulars. Selected publications listed below.

- [1] **Bond, N. A.**, E. Gawiser, C. Gronwall, R. Ciardullo, M. Altmann, and K. Schawinski. Sizes of Lyman-Alpha-Emitting Galaxies and Their Rest-Frame Ultraviolet Components at $z=3.1$. *Accepted to Astrophys. J. (in press)*, July 2009. Manuscript at astro-ph/0907.2235.
- [2] **Bond, N. A.**, Z. Ivezić, B. Sesar, M. Juric, and J. Munn. The Milky Way Tomography with SDSS: III. Stellar Kinematics. *Submitted to Astrophys. J.*, August 2009. Manuscript at astro-ph/0909.0013.
- [3] **Bond, N. A.**, M. Strauss, and R. Cen. Crawling the Cosmic Network: Exploring the Morphology of Structure in the Galaxy Distribution. *Submitted to Astrophys. J.*, March 2009. Manuscript at astro-ph/0903.3601.
- [4] **Bond, N. A.**, M. Strauss, and R. Cen. Crawling the Cosmic Network: Identifying and Quantifying Filamentary Structure. In preparation, draft available at <http://www.astro.princeton.edu/~nbond/paper2.pdf>.
- [5] B. T. Draine and **Bond, N. A.** Direct Extragalactic Distance Determination Using X-Ray Scattering. *Astrophys. J.*, 617:987–1003, December 2004.
- [6] **Bond, N. A.**, C. W. Churchill, J. C. Charlton, and S. S. Vogt. Evidence for Expanding Superbubbles in a Galaxy at $z=0.7443$. *Astrophys. J.*, 557:761–769, August 2001.
- [7] **Bond, N. A.**, C. W. Churchill, J. C. Charlton, and S. S. Vogt. High-Redshift Superwinds as the Source of the Strongest Mg II Absorbers: A Feasibility Analysis. *Astrophys. J.*, 562:641–648, December 2001.

TEACHING
EXPERIENCE

Substitute lecturer, March 2008 and February 2009. Lectured in two graduate cosmology classes with ~ 10 students and two undergraduate astronomy classes with ~ 100 students.

Rutgers University

CONNECT-ED Program in Teacher Preparation, 2006. Coordinated with group of 4 teachers to prepare a presentation to ~ 20 teachers and science professionals on astronomy fundamentals.

QUEST Program in Teacher Preparation, Summer 2004. Instructed ~ 30 teachers K-12 on astronomy fundamentals.

Teaching assistant for introductory astronomy course, Septemeber 2002 - January 2003. Prepared and presented precept on the Philosophy of Science and Astronomy.

Princeton University

REFERENCES

Prof. Michael Strauss, Princeton University, strauss@astro.princeton.edu

Prof. Eric Gawiser, Rutgers University, gawiser@physics.rutgers.edu

Prof. Zeljko Ivezic, University of Washington, ivezic@astro.washington.edu