

Roban Hultman Kramer

- CONTACT INFORMATION Department of Astronomy
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- PRESENT POSITION Zwicky Fellow, Institute of Astronomy, ETH Zurich, beginning January 2009
- EDUCATION Ph.D. Astronomy, Columbia University, 2009
M.A. and M. Phil. Astronomy, Columbia University, 2007
B.A. Astrophysics, Swarthmore College, 2003, with High Honors
- REFEREED JOURNAL PUBLICATIONS **Calibrating the Use of Quasar Lyman- α Emission Lines as Probes of Reionization**
Kramer, Roban Hultman; Haiman, Zoltán. *MNRAS* (in press)
- The Thickness of High-Redshift Quasar Ionization Fronts as a Constraint on the Ionizing Spectral Energy Distribution**
Kramer, Roban Hultman; Haiman, Zoltán. *MNRAS*, 385, 1561 (2008)
- Feedback from Clustered Sources During Reionization**
Kramer, Roban Hultman; Haiman, Zoltán; Oh, Peng. *ApJ*, 649, 570 (2006)
- X-ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the Chandra Spectrum of ζ Puppis**
Kramer, Roban H.; Cohen, David H.; Owocki, Stanley P. *ApJ*, 592, 532 (2003)
- X-ray Emission Line Profile Modeling of Hot Stars**
Kramer, Roban H.; Tonnesen, Stephanie K.; Cohen, David H.; Owocki, Stanley P.; ud-Doula, Asif; MacFarlane, Joseph J. *Rev. Sci. Inst.*, 74, 1966 (2003)
- TALKS Academic **Calibrating the Use of Quasar Lyman- α Emission Lines as Probes of Reionization**
XXIVth IAP Conference "Far Away: Light in the young Universe", IAP, Paris, July 7-11, 2008
- The Thickness of High-z Quasar Ionization Fronts as a Constraint on the Quasar Ionizing SED**
The First Two Billion Years of Galaxy Formation: The Reionization Epoch and Beyond, Aspen Center for Physics, February 11-15, 2008
- Clustering and Feedback in the Early Stages of Reionization**
The End of the Dark Ages, STScI, Baltimore, March 11-13, 2006
- Public **Weather on Other Planets**, Columbia University, New York, November 2, 2007

- RESEARCH EXPERIENCE Research with Zoltán Haiman, Columbia University, 2004-Present:
Modeled feedback during reionization and the use of high-redshift quasars as probes of the reionization epoch.
- Research with David Cohen, Swarthmore College, 2001-2003:
Developed numerical modeling and fitting code to study the x-ray emission-line profiles generated in the outflows around OB stars.
- TEACHING EXPERIENCE **Laboratory Instructor**, *Earth, Moon, and Planets Laboratory*
Columbia University, 2004-2006
Created and taught astronomy laboratory classes involving collaborative classroom work, computer simulations, hands-on physical laboratory exercises, outdoor observing sessions, and unique field trips. Developed exercise plans still in use today.
- Teaching Assistant**, *Beyond the Solar System*
Columbia University, 2006
Conducted review sessions, ran weekly help sessions, graded student work, created and delivered a lecture. With Professor Kathryn Johnston.
- TECHNICAL EXPERIENCE Python (SciPy/NumPy), Perl (PDL), Java, IDL, Mathematica, C.
Author of CosmoPy, a cosmology package for python:
<http://roban.github.com/CosmoPy/>.
- Astronomy packages: IRAF, AIPS, DAOPHOT, Cloudy.