

## Adrienne M. Juett – Curriculum Vitae

University of Virginia, Department of Astronomy  
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### Education:

**Ph.D. Physics** (5/2004), Massachusetts Institute of Technology.

Thesis: X-ray Spectroscopy of Low Mass X-ray Binaries; Advisor: Deepto Chakrabarty.

**B.Sc. Engineering Physics and Chemical Engineering** (5/1999), University of Kansas. Graduated with Highest Distinction, Departmental Honors in Chemical Engineering.

### Research Experience:

Post-doctoral Research Assistant (2004-present), University of Virginia, Charlottesville, VA.

Supervisor: Craig Sarazin.

Programs: Study of X-ray binary populations of early-type galaxies. X-ray analysis of emission from clusters of galaxies.

Graduate Research Assistant (1999-2004), MIT, Cambridge, MA.

Supervisor: Deepto Chakrabarty.

Programs: X-ray spectroscopy of low mass X-ray binaries and isolated neutron stars. High-resolution X-ray spectroscopic study of the interstellar medium.

Undergraduate Research Assistant (1997-1999), University of Kansas, Lawrence, KS.

Supervisor: David Besson.

Programs: Assisted with calibration of the RICE Astrophysics Experiment. Used test transmitters to determine hardware functionality and measure ice transparency.

### Teaching Experience:

Teaching Assistant (Spring 2003), Introductory Electricity & Magnetism 8.02T, MIT.

Introductory calculus based course taught in active learning format. Taught 1 hour a week recitation/problem solving class. Worked in class 4 additional hours a week assisting Lecturer with student questions and laboratory portion.

Teaching Assistant (Spring 1999), Introductory Mechanics PHSX 211, Univ. of Kansas.

Laboratory instructor for introductory calculus based physics course.

Teaching Assistant (Spring 1998), Introductory Mechanics PHSX 114, Univ. of Kansas.

Laboratory instructor for introductory non-calculus based physics course.

### Professional Activities:

Peer reviewer (2003-present), *Astrophys. J.*, *Astrophys. J. Lett.*, *Astron. & Astrophys.*

Served on NASA X-ray observatory time allocation committee.

McCormick Observatory Public Nights – presented public lecture on X-ray observations of supernovae and remnants.

**Societies:**

American Astronomical Society Full Member (2002) • Tau Beta Pi Engineering Honor Society (1999) • Sigma Pi Sigma Physics Honor Society (1998)

**Awarded Observing Proposals:**

Chandra Cycle 8: PI on Theory/Modeling Grant to develop high-resolution ISM absorption model, \$31k.

Chandra Cycle 8: PI on observations of 2 E+A galaxies, 50 ks total.

XMM-Newton Cycle 5: PI on observations of 2 E+A galaxies (Priority C), 76 ks total.

Chandra Cycle 7: PI on observation of LMXB in NGC 6624, 100 ks.

GBT Summer 2005: PI on observation of SAX J1808.4-3658, 11 hr.

Suzaku Cycle 1: PI on observation of 4U 1916-05, 50 ks (canceled due to instrument failure).

Chandra Cycles 6,7,8: Co-I on TOO observations of NS SXTs (PI: Chakrabarty), 4 ks total each cycle.

MIT/Magellan 2004A Semester: PI on UV observations of early-type galaxies.

Chandra Cycle 5: Observing Co-I on observation of 4U 1916-05 (PI: Chakrabarty), 50 ks.

XMM-Newton Cycle 2: Co-I on observation of 4U 0513-40 (PI: Chakrabarty), 25 ks.

Chandra Cycle 3: Co-I on observation of 4U 1850-087 (PI: Chakrabarty), 55 ks.

**Selected Talks:**

*Probing the Structure and Composition of the Interstellar Medium with High-Resolution X-ray Spectroscopy*, Dissertation Talk at AAS meeting (Jan. 2005).

*Probing the Structure and Composition of the Interstellar Medium with High-Resolution X-ray Spectroscopy*, AAS HEAD meeting (Sept. 2004).

*X-ray Spectroscopy of Low-Mass X-ray Binaries*, Colloquium University of Tübingen (Dec. 2003).

*High-Resolution Photoelectric Absorption Spectroscopy of Interstellar Oxygen*, 4 Years of Chandra Observations Symposium (Sept. 2003).

*Neon-Rich Degenerate Donors in Ultracompact LMXBs*, The Physics of Ultracompact Stellar Binaries Workshop (Jan. 2003).

*High-Resolution Spectroscopy of Ultracompact Binaries*, X-ray Binaries in the Chandra and XMM-Newton Era (Nov. 2002).

*Chandra/HETGS Spectroscopy of the Anomalous X-ray Pulsar 4U 0142+61*, APS/HEAD meeting (Apr. 2002).

**References:**

Prof. Claude Canizares, MIT, 77 Massachusetts Ave., Room 3-234, Cambridge, MA 02139-4307;  
e-mail: [crc@mit.edu](mailto:crc@mit.edu), phone: 617-253-3206

Prof. Deepto Chakrabarty, MIT, 70 Vassar Street, Room 37-626A, Cambridge, MA 02139-4307;  
e-mail: [deepto@space.mit.edu](mailto:deepto@space.mit.edu), phone: 617-253-3840

Prof. Craig Sarazin, University of Virginia, P.O. Box 400325, Charlottesville, VA 22904-4325;  
e-mail: [cls7i@virginia.edu](mailto:cls7i@virginia.edu), phone: 434-924-4903

## Referred Publications:

*High-Resolution X-Ray Spectroscopy of the Interstellar Medium II: Neon and Iron Absorption Edges*, **Juett, A. M.**, Schulz, N. S., Chakrabarty, D., & Gorczyca, T. W. (2006), *Astrophys. J.*, in press (astro-ph/0605674).

*Detection of Highly Ionized Metal Absorption Lines in the Ultracompact X-ray Dipper 4U 1916-05*, **Juett, A. M.** & Chakrabarty, D. (2006), *Astrophys. J.*, 646, 493-498.

*The Neutron Star Soft X-ray Transient 1H 1905+000 in Quiescence*, Jonker, P. G., Bassa, C. G., Nelemans, G., **Juett, A. M.**, Brown, E. F., & Chakrabarty, D. (2006), *Mon. Notices of the Royal Astron. Soc.*, 368, 1803-1810.

*X-Ray Spectroscopy of Candidate Ultracompact X-Ray Binaries*, **Juett, A. M.** & Chakrabarty, D. (2005), *Astrophys. J.*, 627, 926-932.

*The X-Ray Position and Optical Counterpart of the Accretion-powered Millisecond Pulsar XTE J1814-338*, Krauss, M. I., Wang, Z., Dullighan, A., **Juett, A. M.**, Kaplan, D. L., Chakrabarty, D., van Kerkwijk, M. H., Steeghs, D., Jonker, P. G., & Markwardt, C. B. (2005), *Astrophys. J.*, 627, 910-914.

*On the Nature of X-Ray Sources in Early-Type Galaxies*, **Juett, A. M.** (2005), *Astrophys. J. Lett.*, 621, L25-L28.

*High-Resolution X-Ray Spectroscopy of the Interstellar Medium: Structure at the Oxygen Absorption Edge*, **Juett, A. M.**, Schulz, N. S., & Chakrabarty, D. (2004), *Astrophys. J.*, 612, 308-318.

*X-Ray Spectroscopy of the Low-Mass X-Ray Binaries 2S 0918-549 and 4U 1543-624: Evidence for Neon-rich Degenerate Donors*, **Juett, A. M.** & Chakrabarty, D. (2003), *Astrophys. J.*, 599, 498-508.

*X-Ray Spectroscopy of the Accreting Millisecond Pulsar XTE J0929-314 in Outburst*, **Juett, A. M.**, Galloway, D. K., & Chakrabarty, D. (2003), *Astrophys. J.*, 587, 754-760.

*The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657-415*, Chakrabarty, D., Wang, Z., **Juett, A. M.**, Lee, J. C., & Roche, P. (2002), *Astrophys. J.*, 573, 789-793.

*Chandra High-Resolution Spectrum of the Anomalous X-Ray Pulsar 4U 0142+61*, **Juett, A. M.**, Marshall, H. L., Chakrabarty, D., & Schulz, N. S. (2002), *Astrophys. J. Lett.*, 568, L31-L34.

*Ultracompact X-Ray Binaries with Neon-rich Degenerate Donors*, **Juett, A. M.**, Psaltis, D., & Chakrabarty, D. (2001), *Astrophys. J. Lett.*, 560, L59-L63.

*Anomalous X-Ray Pulsars and Soft Gamma-Ray Repeaters: Spectral Fits and the Magnetar Model*, Perna, R., Heyl, J. S., Hernquist, L. E., **Juett, A. M.**, & Chakrabarty, D. (2001), *Astrophys. J.*, 557, 18-23.

*Status of the Radio Ice Cherenkov Experiment (RICE)*, Allen, C., Bean, A., Besson, D., Frichter, G., **Juett, A.**, Karle, A., Kotov, S., Kravchenko, I., McKay, D., Miller, T. C., Piccirillo, L., Ralston, J., Seckel, D., Seunarine, S., & Spiczak, G. M. (1998), *New Astronomy Revs.*, 42, 319-329.

## **Other Publications:**

*Chandra Localization of the Neutron Star X-Ray Transients XTE J1739-285 and XTE J1701-462*, Krauss, M. I., **Juett, A. M.**, Chakrabarty, D., Jonker, P. G., & Markwardt, C. B. (2006), *The Astronomer's Telegram*, 777.

*Multi-epoch Observations of LMXBs in Early-type Galaxies*, Sivakoff, G. R., Jordán, A., **Juett, A. M.**, Sarazin, C. L., & Irwin, J. A. (2005), In *IAU Symp. 230: Populations of High Energy Sources in Galaxies*, 210-214.

*X-ray localization and possible IR counterpart of XTE J1747-274/ IGR J17473-2721*, **Juett, A. M.**, Kaplan, D. L., Chakrabarty, D., Markwardt, C. B., & Jonker, P. G. (2005), *The Astronomer's Telegram*, 521.

*Chandra/HETGS Spectroscopy of the Anomalous X-ray Pulsar 4U 0142+61*, **Juett, A. M.**, Marshall, H. L., Chakrabarty, D., Canizares, C. R., & Schulz, N. S. (2002), in *Neutron Stars and Supernova Remnants*, ed. P. O. Slane & B. M. Gaensler (San Francisco: ASP Conf. Ser. 271), 301-304 (astro-ph/0111507).