

# Britton Devon Smith

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Center for Astrophysics &  
Space Astronomy  
Department of Astrophysical &  
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## EDUCATION

2007, Ph.D., Astronomy & Astrophysics  
The Pennsylvania State University, University Park, PA, USA  
Thesis Title: *The Transition from Pop III to Pop II Star Formation in the Early Universe*  
Thesis Advisor: Prof. Steinn Sigurdsson

2001, B.S., Astronomy, Mathematics, Physics  
University of Wisconsin, Madison, WI, USA

## PROFESSIONAL

*Postdoctoral Researcher*  
*Center for Astrophysics & Space*  
*Astronomy*

**Department of Astrophysical &  
Planetary Sciences  
University of Colorado  
Boulder, CO, USA  
2007–Present**

*Research/Teaching Assistant*  
*Department of Astronomy &*  
*Astrophysics*

**The Pennsylvania State  
University  
University Park, PA, USA  
2001–2007**

## TEACHING

*Department of Astrophysical &*  
*Planetary Sciences*

**University of Colorado  
Boulder, CO, USA  
2008**

### Courses

- Astronomy 6000: Graduate Seminar - The First Stars, Instructor

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*Department of Astronomy &  
Astrophysics*

**Penn State University  
University Park, PA, USA  
2001–2006**

## Courses

- Astronomy 011: Introductory Astronomy Lab, Instructor
- Astronomy 197A: Special Topics in Astronomy: Black Holes, Grader
- Astronomy 451: Techniques in Observation and Data Analysis, Grader
- Astronomy 452: Techniques in Observation and Data Analysis Lab, Lab Supervisor
- Astronomy 475W: Stars and Galaxies, Grader, Substitute Lecturer
- Astronomy 497A: Extrasolar Planets: Grader

## AWARDS

- Astronomy Teaching Assistant of the Year, 2003
- Graduate Assistant Outstanding Teaching Award, Penn State, 2004
- Braddock Fellowship, Eberly College of Science, Penn State, 2001

## GRANTS

- Hubble Space Telescope Cycle 15 Theory Grant: *Modeling the Transition from Pop III to Pop II Star Formation in the Early Universe*, 2006

## REFEREED PUBLICATIONS

Hallman, E. J., O’Shea, B. W., Smith, B. D., Burns, J. O., Norman, M. L., 2009, *The Santa Fe Light Cone Simulation Project: II. The Prospects for Direct Detection of the WHIM with SZE Survey*, ApJ, accepted (arXiv:0903.3239).

Wiersma, R.P.C., Schaye, J., Smith, B.D., 2009, *The Effect of Photoionization on the Cooling Rates of Enriched, Astrophysical Plasmas*, MNRAS, 393, 99.

Smith, B.D., Turk, M.J., Sigurdsson, S., OShea, B.W., Norman, M., 2009, *Three Modes of Metal-Enriched Star Formation in the Early Universe*, ApJ, 691, 441.

Smith, B.D., Sigurdsson, S., and Abel, T., 2008, *Metal Cooling in Simulations of Cosmic Structure Formation*, MNRAS, 385, 1443.

Bogdanovic, T., Smith, B.D., Sigurdsson, S., Eracleous, M., 2008, *Modeling of Emission Signatures of Massive Black Hole Binaries. I. Methods*, ApJS, 174, 455.

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Smith, B.D. and Sigurdsson, S., 2007, *The Transition from the First Stars to the Second Stars in the Early Universe*, ApJ, 661, L5.

McCammon, D., Galeazzi, M., Liu, D., Sanders, W. T., Smith, B., Tan, P., Boyce, K. R., Brekosky, R., Gygax, J. D., Kelley, R., Mott, D. B., Porter, F. S., Stahle, C. K., Stahle, C. M., Szymkowiak, A. E., 2002, *1/f Noise and Hot Electron Effects in Variable Range Hopping Conduction*, Physica Status Solidi (B), Basic Research.

CONFERENCE PROCEEDINGS Smith, B.D., Turk, M.J., Sigurdsson, S., OShea, B.W., Norman, M., 2008, *Three Modes of Metal-Enriched Star Formation at High Redshift*, to appear in the proceedings of IAU Symposium 255: Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies.

Smith, B.D., Sigurdsson, S., OShea, B.W., Norman, M., 2008, *The Role of the First Metals in Forming the Second Stars*, to appear in the proceedings of First Stars III.

Bogdanovic, T., Smith, B.D., Eracleous, M., and Sigurdsson, S., 2006, *Electromagnetic Signatures of Black Hole Binaries*, to appear in the proceedings of the Lisa 6 Symposium, astro-ph/0609766.

Liu, D., Galeazzi, M., McCammon, D., Sanders, W. T., Smith, B., Tan, P., Boyce, K. R., Brekosky, R., Gygax, J. D., Kelley, R., Mott, D. B., Porter, F. S., Stahle, C. K., Stahle, C. M., Szymkowiak, A. E., 2002, *Hot-electron model in doped silicon thermistors*, LOW TEMPERATURE DETECTORS: Ninth International Workshop on Low Temperature Detectors. AIP Conference Proceedings.

POSTERS Smith, B.D., Sigurdsson, S., OShea, B.W., Norman, M., 2007, *Three Modes of Star Formation in the Early Universe*, American Astronomical Society Meeting 211.

Smith, B.D., Sigurdsson, S., OShea, B.W., Norman, M., 2007, *The Role of the First Metals in Forming the Second Stars*, First Stars III.

Smith, B.D., Sigurdsson, S., 2006, *Metallicity-Induced Fragmentation and the Transition from Pop III to Pop II*, Radiation Backgrounds from the First Stars, Galaxies and Black Holes, 17th Annual October Astrophysics Conference in Maryland.

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Sigurdsson, S., Bogdanovic, T., Eracleous, M., Smith, B.D., 2006, *Observational Signatures of Massive Black Hole Binaries*, American Astronomical Society, HEAD Meeting 9

Smith, B.D., Sigurdsson, S., 2006, *Metal Cooling and Fragmentation in Simulations of Star Formation*, Massive Stars: From Pop III and GRBs to the Milky Way, Space Telescope Science Institute May Symposium.

### TALKS

Smith, B.D., Turk, M.J., Sigurdsson, S., OShea, B.W., Norman, M., *Three Modes of Metal-Enriched Star Formation at High Redshift*, IAU Symposium 255: Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies, June 19, 2008.

Smith, B.D., Turk, M.J., Sigurdsson, S., OShea, B.W., Norman, M., , *Low Metallicity Star Formation at Very High Redshift*, Astrophysical Institut Potsdam Colloquium, June 11, 2008.

Smith, B.D., Sigurdsson, S., OShea, B.W., Norman, M., *Simulating the Transition from the First Stars to the Second Stars*, 2008 Winter Conference on Astrophysics: The First 2 Billion Years of Galaxy Formation: The Reionization Epoch and Beyond, February 15, 2008.

Smith, B.D., Sigurdsson, S., OShea, B.W., Norman, M., *Simulating the Transition from the First Stars to the Second Stars*, JILA Astrophysics Lunch Seminar, November 30, 2007.

Smith, B.D., Sigurdsson, S., *The Future of the Second Stars*, Looking Beyond the First Stars, Yale University, June 6, 2007.

Smith, B.D., Sigurdsson, S., *The Role of the First Metals in Forming the Second Stars*, Yale Center for Astronomy & Astrophysics Seminar, Yale University, June 5, 2007.

Smith, B.D., Sigurdsson, S., *Metallicity-Induced Fragmentation and the Transition from Pop III to Pop II*, American Astronomical Society Meeting 209, January 8, 2007.