

# Bradford A. Benson

## Curriculum Vitae

### Contact

University of California, Berkeley  
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### Education

2004 Ph.D. Physics, Stanford University  
2002 M.S. Physics, Stanford University  
1999 B.A. Physics and Mathematics, *Graduated with Honors*, University of Wisconsin-Madison

### Doctoral Thesis

Thesis: "Spectral Measurements of the Sunyaev-Zel'dovich Effect"  
Advisor: Professor Sarah E. Church

### Research Experience

- 2004- Postdoctoral Researcher, *University of California-Berkeley*, Advisor: Professor William Holzapfel. Design and construction of the receiver for the South Pole Telescope (SPT).
- 2000-2004 Graduate Research Assistant, *Stanford University*, Advisor: Professor Sarah Church. The Sunyaev-Zel'dovich Infrared Experiment (SuZIE), a millimeter wavelength receiver designed to measure the spectrum of the SZ effect
- 1998-1999 Senior Honors Thesis, *University of Wisconsin-Madison*, Advisor: Professor Donald Cox. Hydro-dynamical modeling of shocked interstellar gas.
- 1998 NSF REU Researcher, *National Solar Observatory*, Advisor: Dr. Thomas Rimmele. I analyzed the performance of a Fabry-Perot Interferometer, and observed the FeI 557.6 nm line in the solar photosphere to study the origins of the solar 5-minute p-mode oscillations.
- 1996-1998 Undergraduate Research Assistant, *UW-Madison*, Advisor: Professor Dan McCammon. The X-ray Quantum Calorimeter (XQC), a rocket-borne array of Super-conducting Transition Edge Sensors designed to measure the diffuse X-ray Background.
- 1996-1998 Undergraduate Research Assistant, *UW-Madison*, Advisor: Dr. Brian Hoffman I separated soil samples, and cataloged artifacts from excavations at Agayadan Village on Unimak Island, Alaska. I measured the soil pH, composition, and elemental abundances.

## Refereed Publications

- **Benson, B.A.**, Church, S.E., Ade, P.A.R., Bock, J.J., Ganga, K.M., Henson, C.N., & Thompson, K.L., 2004, *Measurements of Sunyaev-Zel'dovich Scaling Relations for Clusters of Galaxies*, The Astrophysical Journal, 617, 829
- **Benson, B.A.**, Church, S.E., Ade, P.A.R., Bock, J.J., Ganga, K.M., Hinderks, J.R., Mauskopf, P.D., Philhour, B., Runyan, M.C., & Thompson, K.L., 2003, *Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies*, The Astrophysical Journal, 592, 674
- Robert A. Benjamin, **Bradford A. Benson**, & Donald P. Cox, 2001, *A Useful Approximation to the Cooling Coefficient of Trace Elements*, The Astrophysical Journal, 554, L225

## Other Publications

- Church, S.E., **Benson, B.A.**, Thompson, K.L., 2005, *Recent Results from the SuZIE Experiment: An Investigation of SZ Scaling Relationships*, ASPC, 339, 157C
- **Bradford A. Benson**, 2004, *Spectral Measurements of the Sunyaev-Zel'dovich Effect*, PhD thesis
- Robert A. Benjamin, **Bradford A. Benson**, Donald P. Cox, 2001, *A Useful Approximation to the Cooling Coefficient of Trace Elements*, 198<sup>th</sup> AAS Meeting, Bulletin of the American Astronomical Society, Vol. 33, 873
- Robert A. Benjamin, **Bradford A. Benson**, Donald P. Cox, 2001, *An Approximation to the Cooling Coefficient of Trace Elements*, AIP Conference Proceedings, Vol. 565, 222
- **Bradford A. Benson**, 1999, *An Approximation to the Cooling Coefficient of Trace Elements*, undergraduate honors thesis

## Publications Submitted or in Prep

- Church, S.E., **Benson, B.A.**, Ade, P.A.R., Bock, J.J., Ganga, K.M., & Thompson, K.L., 2006, *Limits on a Bulk Flow in the Intermediate Redshift Universe*, in prep

## Teaching Experience

Summer 2003	Teaching Assistant (TA), Physics 50, Observational Astronomy
Winter 2003	TA, Physics 107, Intermediate Laboratory: Lasers & Optics
Fall 2002	TA, Physics 50, Observational Astronomy
Fall 2001	TA, Physics 105, Intermediate Laboratory: Analog Electronics
Spring 2000	TA, Physics 107, Intermediate Laboratory: Lasers & Optics
Fall 1999	TA, Physics 47, Light & Heat

## Scholarships and Awards

2003	Graduate Mentor Fellowship
1999	Graduated with Honors and Distinction from the University of Wisconsin-Madison
1999	Wisconsin Space Grant Consortium Scholarship
1998	Peer Mentor Teaching Scholarship