

# Sarah A. Jaeggli

Institute for Astronomy, University of Hawai'i, 2680 Woodlawn Drive, Honolulu, HI 96822, USA

*Email:* jaeggli@ifa.hawaii.edu • *Web:* ifa.hawaii.edu/~jaeggli • *Phone:* (808)956-5465 • *Fax:* (808)956-4532 • *Citizenship:* USA

## Education

**Ph.D. Astronomy**, expected Summer 2011

University of Hawai'i, Honolulu, HI

Thesis: *An Observational Study of the Formation and Evolution of Sunspots*

Advisor: Dr. Haosheng Lin

**M.S. Astronomy**, December 2007

University of Hawai'i, Honolulu, HI

**B.S. Physics and Astronomy**, May 2005

University of Arizona, Tucson, AZ

Summa Cum Laude

## Honors and Awards

- Phi Beta Kappa, December 2004
- Glen C. Purviance Scholarship Award, 2004
- Dean's List with Distinction, Fall 2001 - Spring 2003, Spring 2004 • Dean's List Honorable Mention, Fall 2003, Fall 2004

## Professional Memberships

- American Astronomical Society, 2004-Present

## Research

**Graduate Research Assistant**, *University of Hawai'i, 2007-Present*

*Advisor:* Dr. Haosheng Lin

Commissioning of the Facility Infrared Spectropolarimeter on the Dunn Solar Telescope, dissertation research.

**Visiting Graduate Student**, *National Solar Observatory at Sacramento Peak, February - May 2010*

*Advisor:* Dr. Han Uitenbroek

Atmospheric modeling of sunspot umbra, instrument support, dissertation research.

**Graduate Research Assistant**, *University of Hawai'i, 2005-2007*

*Advisor:* Dr. Jeffrey Kuhn

Feasibility studies for the heat-stop and wavefront curvature sensor for the New Solar Telescope at Big Bear Solar Observatory.

**Directed Research Course**, *University of Hawai'i, 2006-2007*

*2007 Advisor:* Dr. Robert Joseph

Analysis of integral field spectroscopy of merging and Seyfert 2 galaxies.

*2006 Advisor:* Dr. Shadia Habbal

Design and implementation of a broadband spectroscopy experiment during the total solar eclipse of March 29, 2006.

**Undergraduate Research Assistant**, *National Solar Observatory, Tucson, AZ, 2003-2005*

*Advisor:* Dr. Matthew Penn

Study of chemical abundances in sunspot umbrae and wavelet analysis of moving magnetic features in sunspot superpenumbrae.

**Cube Satellite Project**, *University of Arizona, 2003-2005*

*Supervisor:* Dr. Uwe Fink

Power and communication systems specialist.

**REU**, *National Radio Astronomy Observatory, Charlottesville, VA, Summer 2004*

*Advisor:* Dr. Richard Bradley

Hardware and software development for the broadband digital spectrograph on the Green Bank Solar Radio Burst Spectrometer.

**REU**, *National Solar Observatory, Tucson, AZ, Summer 2003*

*Advisor:* Dr. Matthew Penn

Characterization of instrumental polarization for the McMath-Pierce Solar Telescope.

**NASA Space Grant Internship**, *University of Arizona, 2002-2003*

*Advisor:* Dr. Timothy Slater

Astronomy education research in undergraduate classrooms.

## Committees and Service

**IfA Graduate Education and Public Outreach**, *2005-present*

Participated on a monthly basis in public outreach activities for grades K-12 and adults including star- and sun-gazing, planetarium shows, comet making, telescope building, and many other activities.

**IfA TGIF**, *2008-2011*

Organizer for institute-wide free-form discussion group.

**Hawai'i State Science Fair Judge**, *2011*

Astronomy judge for the Hawai'i State Science Fair.

**IfA Colloquium Committee**, *2010-2011*

Elected graduate student representative to the colloquium committee.

**IfA Public Open House**, *2006-2009, 2011*

Organized and assisted with activities at IfA annual public open house.

**IfA Graduate Student Representative**, *2009*

Appointed student representative to the faculty.

**IfA Graduate Research Oversight Group**, *2008-2009*

Elected student representative on the committee that oversees graduate student directed research.

**University of Arizona Astronomy Camp**, *2005, 2009*

Astronomy camp counselor for beginning and advanced camps, students grade 7-12. In 2009, lead a student observing project using the Vertical Spectrograph on the McMath-Pierce Solar Telescope to detect the solar magnetic fields and p-modes.

## Presentations and Posters

*An Observational Study of the Formation and Evolution of Sunspots*. Dissertation Presentation, American Astronomical Society Solar Physics Division Meeting. Las Cruces, NM. June 2011.

*Status of FIRS Data and Processing*. Invited Presentation, The Second Vector Magnetogram Comparison Group Meeting. Stanford, CA. October 2010.

*Adventures in Spectropolarimetry at the National Solar Observatory*. Presentation, IfA AstroCoffee. October 2010.

*Molecule Formation and Magnetic Field Evolution in Sunspots*. Presentation, The 6th Solar Polarization Workshop. Ka'anapali, HI. June 2010.

*FIRS: A New Instrument for Multi-Wavelength Spectropolarimetry*. Invited Presentation, The First Vector Magnetogram Comparison Group Meeting. Tucson, AZ. October 2009.

*FIRS: A New Instrument for Photospheric and Chromospheric Studies at the Dunn Solar Telescope*. Presentation, NSO Workshop 25: Chromospheric Structure and Dynamics. Sacramento Peak, NM. September 2009.

*The Facility Infrared Spectropolarimeter for the Dunn Solar Telescope*. Poster Paper, American Geophysical Union, Spring Meeting. Ft. Lauderdale, FL. May 2008.

*The Starburst-AGN Connection: Integral Field Spectroscopy of Merging and Seyfert 2 Galaxies*. Presentation, Directed Research Course. Institute for Astronomy. July 2007.

*The Starburst-AGN Connection: Integral Field Spectroscopy of Merging and Seyfert 2 Galaxies*. Poster Paper, American Astronomical Society Meeting 210. Honolulu, HI. May 2007.

*Broadband Spectroscopy of the Corona during the Total Solar Eclipse of March 29, 2006*. Presentation, Directed Research Course. Institute for Astronomy. January 2007.

*Broadband Spectroscopy of the Corona during the Total Solar Eclipse of March 29, 2006.* Poster Paper, American Astronomical Society Meeting 209. Seattle, WA. January 2007.

*Searching for Moving Magnetic Features at 1565 nm.* Poster Paper, American Geophysical Union, Spring Meeting. New Orleans, LA. May 2005.

*IR Vector Magnetic Fields I: Instrumental Polarization Correction.* Poster Paper, American Astronomical Society Meeting 204. Denver, CO. May 2004.

**Refereed  
Publications**

**Jaeggli, S. A.**; Lin, H.; & Uitenbroek, H., 2011, *On Molecular Hydrogen Formation and the Magneto-hydrostatic Equilibrium of Sunspots*, in prep. for ApJ

Elmore, D. F.; Lin, H.; Socas Navarro, H.; & **Jaeggli, S. A.**, 2010, *Utilization of redundant polarized solar spectra to infer the polarization properties of the new generation of large aperture solar telescopes*, SPIE, 7735, 147

Kuhn, J. R.; Arnaud, J.; **Jaeggli, S.**; Lin, H.; & Moise, E., 2007, *Detection of an Extended Near-Sun Neutral Helium Cloud from Ground-based Infrared Coronagraph Spectropolarimetry*, ApJ, 667, 203

Habbal, S. R.; Morgan, H.; Johnson, J.; Arndt, M. B.; Daw, A.; **Jaeggli, S.**; Kuhn, J.; & Mickey, D., 2007, *Localized Enhancements of Fe+10 Density in the Corona as Observed in Fe XI 789.2 nm during the 2006 March 29 Total Solar Eclipse*, ApJ, 663, 598

**Other  
Publications**

**Jaeggli, S. A.**; Lin, H.; & Uitenbroek, H., 2011, *Molecule Formation and Magnetic Field Evolution in Sunspots*, ASP Conf., Solar Polarization Workshop 6

Schad, T.; **Jaeggli, S. A.**; Lin, H.; & Penn, M., 2011, *Spectropolarimetry of Chromospheric Magnetic and Velocity Structure Above Active Regions*, ASP Conf., Solar Polarization Workshop 6

**Jaeggli, S. A.** & Lin, H., 2010, *The FIRS Data Reduction Manual*

**Jaeggli, S. A.**; Lin, H.; Mickey, D. L.; Kuhn, J. R.; Hegwer, S. L.; Rimmele, T. R.; & Penn, M. J., 2010, *FIRS: A New Instrument for Photospheric and Chromospheric Studies at the Dunn Solar Telescope*, Mem. SA It, 81, 763

**Jaeggli, S. A.** & Lin, H., 2009, *The FIRS User's Manual*

Penn, M. J.; **Jaeggli, S. A.**; Henney, C. J.; Luszcz, S.; & Walton, S. R., 2006, *Penumbra Moving Magnetic Features*, ASP Conf., 368, 31

**Telescope Time  
Awarded**

*The Evolution of Sunspot Magnetic Fields with Multi-Wavelength Spectropolarimetry.*

Richard B. Dunn Solar Telescope.

Feb 2010, 12 days; May 2010, 10 days; September 2010, 9 days; November 2010, 9 days

**References**

**Dr. Haosheng Lin**

Institute for Astronomy

University of Hawai'i

34 Ohia Ku

Pukalani, HI 96768, USA

(808) 573-9538

lin@ifa.hawaii.edu

**Dr. Han Uitenbroek**

National Solar Observatory

Sacramento Peak

3010 Coronal Loop

Sunspot, NM 88349, USA

(575) 434-7032

huitenbroek@nso.edu

**Dr. Shadia Habbal**  
Institute for Astronomy  
University of Hawai'i  
2680 Woodlawn Drive  
Honolulu, HI 96822, USA  
(808) 956-6531  
shadia@ifa.hawaii.edu

**Dr. Matthew Penn**  
National Solar Observatory  
950 N. Cherry St.  
Tucson, AZ 85719, USA  
(520) 318-8510  
mpenn@email.noao.edu