



## *SORCE Science Meeting –*

***Abstract Deadline Extended:  
Dec. 18, 2007***

### ***“SORCE’s Past, Present, and Future Role in Earth Science Research”***

***Feb. 5-7, 2008  
Santa Fe, New Mexico***

It is not too late to submit your abstract for the SORCE Science Meeting! With AGU right around the corner we understand people are swamped, so we have extended the SORCE Meeting abstract deadline to **Dec. 18th**.



The agenda will consist of invited and contributed oral and poster presentations concerning variations in the Sun’s radiation and in the Earth environment. For a complete meeting description, please visit the meeting website – <http://lasp.colorado.edu/sorce/2008SciMeeting>.

***Hotel/Registration:  
Due Jan. 4, 2008***

***We hope that you will join us!  
Register today!***

***353,249***

***Hits to the SORCE Website  
(Since 4/21/03, As of 11/30/07)***

## *Woods and Lean Featured in AGU’s EOS Newsletter –*

AGU’s EOS recently featured an article by SORCE science team members, Tom Woods and Judith Lean, on how TSI and SSI observations are critical in determining how the solar variations might evolve during the next cycle maximum. “**Anticipating the Next Decade of Sun-Earth System Variations**” appeared on the front page of the October 30, 2007 issue (vol. 88, no. 44).

NASA’s extension of the SORCE Mission for another four years allows scientists to continue charting the solar irradiance record into the new solar cycle. With mounting concern that human activity is altering our environment, not just at the surface, but also in the extended atmosphere, it becomes increasingly important to improve our knowledge of all natural “forcings” on the Sun-Earth system and to better characterize and understand the wide range of terrestrial variations that result, ranging from space weather to climate change. In combination with improved models for simulating Sun-Earth system processes, this understanding will ensure the proper interpretation of human’s environmental impact.

The EOS story coincided with a press release by CU’s chief science writer for the Office of University Communications at CU-Boulder, Jim Scott. “CU Satellite Indicates Regional Warming Variations from Sun during Solar Cycle” is available at:



<http://www.colorado.edu/news/releases/2007/452.html>. This press release resulted in a few news stories.

## *AGU Fall Meeting Participation –*

Once again, the SORCE science team will be participating in the annual Fall AGU Meeting, to be held Dec. 10-14, in San Francisco, California. Alphabetical by author, the following presentations are scheduled:

- Bob Cahalan – *Modeling the Wavelength and Time Dependence of Solar Forcing of Earth’s Atmosphere*
- Juan Fontenla – *Variation of Atmospheric Heating Rates Derived from SORCE Solar Spectra and the SRPM Model*

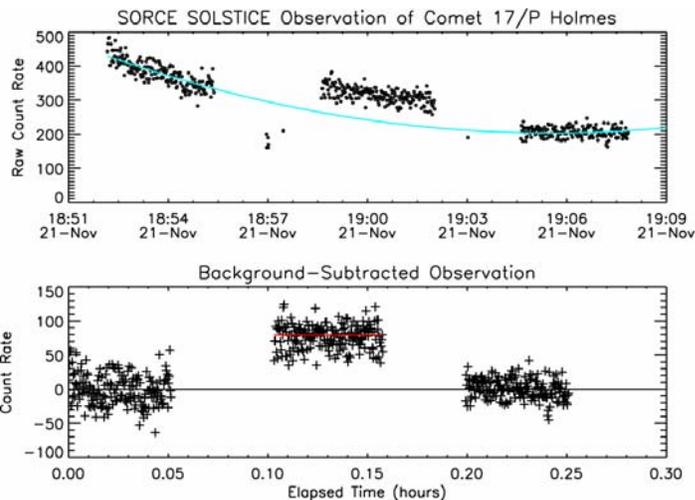
- Jerry Harder – *Spectral Decomposition of the TSI Record Using the *SORCE* TIM and SIM Instruments*
- Greg Kopp – *Total Irradiance Monitor Observations of Total Solar Irradiance*
- Doug Lindholm – *SORCE Solar Irradiance Data Products*
- Chris Pankratz – *The LASP Interactive Solar Irradiance Datacenter (LISIRD)*
- Peter Pilewskie – *Advances in Quantifying the Radiative Effects of Aerosol Particles on Climate from Airborne Field Studies*
- Erik Richard – *Solar Spectral Irradiance Variability in the Near Infrared and Correlations to the Variability of Total Solar Irradiance During the Declining Phase of Solar Cycle 23*

## ***SOLSTICE Observes Comet 17/P Holmes at Lyman Alpha –***

*By Marty Snow, LASP, University of Colorado*

The SOLSTICE instrument on *SORCE* can observe both the Sun and bright stars by simply changing apertures and exposure times. We made use of the increased sensitivity in stellar mode to observe comet 17/P Holmes in late November 2007. The results discussed here are preliminary, and more detailed analysis of the observing geometry will be required to produce a quantitative radiance measurement. The main complicating factor in a Lyman alpha measurement from *SORCE* is the contribution from airglow. Solar Lyman alpha photons are multiply scattered by the upper atmosphere.

Figure 1 shows the raw SOLSTICE observation. In order to correct for the airglow background, we use an observing technique where we point at a dark region of space, followed by an observation of the target, and then return to the dark region again. The contribution from the comet above the background can then be estimated by fitting a polynomial to the dark region observations. The figure's lower panel below shows the resulting count rate after subtraction for airglow. However, the SOLSTICE observation was not centered on the comet nucleus, so the conversion of this count rate to a radiance will require further analysis.



**Figure 1.** Top panel shows the raw count rates for the observation. The middle piece at 19:00 is the comet plus background, while the sections at the beginning and end of the observation are of the airglow alone. The curve is a simple polynomial fit. The bottom panel shows the net count rates for the observation after background subtraction.

## ***Extended Mission Preparation –***

As we move into the *SORCE* Extended Mission, the scientists and engineers are pondering ways to conserve the time we have left with *SORCE*. As the instruments and spacecraft age, it is understandable that chances for things to breakdown increase. Although things are going extremely well, precautionary options to minimize unfortunate events and reduce the wear and tear on hardware are being considered. The goal is to promote a nice long highly success mission life for *SORCE*!

## ***Upcoming Meetings / Talks –***

*SORCE* scientists plan to present papers or attend the following 2007-2008 meetings:

AGU Fall Meeting, Dec. 10-14, San Francisco, CA  
*SORCE* Science Meeting, Feb. 5-7, Santa Fe, NM

**To submit information to this newsletter, please contact:  
[vanessa.george@lasp.colorado.edu](mailto:vanessa.george@lasp.colorado.edu)**