



July 25th – SORCE 18 Months On-Orbit!

Eighteen months of successful operation on-orbit is a crucial milestone for SORCE, because this is the criterion point NASA considers to determine the mission a success. In NASA's eyes, SORCE has been on-orbit long enough to have obtained scientific success by collecting continuous TSI and SSI measurements. SORCE was launched on Jan. 25, 2003 from Kennedy Space Center in Florida. The spacecraft, instruments, and ground systems are all functioning flawlessly.



Plans are in the works to acknowledge this special NASA accomplishment, and details will be forthcoming. Of course, everyone anticipates many more SORCE milestones in the years to come on this 5-year mission.

Special Experiments Run for SORCE's July 6 Solstice –

The SORCE planning team has been extremely busy lately with all of the recent opportunities. Just a month after the Venus Transit, SORCE had another opportunity to show-off its capabilities with the July 6th solstice. Unlike Earth, the longest day of sunlight for SORCE's orbit occurred on this day.

SIM measured the spectrum of atmospheric absorption on July 5th. Test-run experiments were performed prior to the solstice to ensure correct performance of the template. Data from the test were used to produce a wavelength scale, which was necessary for converting the real data to an atmospheric absorption spectrum.

Rather than conduct normal eclipse operations, i.e. point at stars, the spacecraft continued to track the Sun as it was occulted by the Earth. SOLSTICE performed two mini-scan experiments for these observations – one centered at Lyman-alpha, and the other near 225 nm to observe nitric oxide.

61,687

Hits to the SORCE Website

(Since 4/21/03, As of 7/26/04)

SORCE Principal Investigator Announces Retirement Plans –

Gary Rottman recently announced his plans to phase into retirement beginning the end of July 2004 – yes, this month! While he is planning to work part-time for one more year, his ultimate goal is to be fully retired from LASP in the summer of 2005. Beyond that, Gary plans to continue participating in solar research but in a reduced and more focused capacity. Rottman said, "My ideal job would be to work 3 months a year averaged out, doing science. The years fly by and I'm not getting to some of the things I really want to accomplish."

During the coming year, Gary will work with NASA and NOAA to transfer the leadership of the UARS, SORCE, and NPOESS programs to other individuals within LASP. The future for the SORCE program and other solar irradiance programs at LASP is very bright, and Gary plans to assist current efforts to ensure their continued success.



Besides science, Gary plans to enjoy his free time with hobbies and interests that have taken back-stage through the years. He already has a 3-week rafting trip through the Grand Canyon planned for next spring, and is looking forward to building a new home in Durango, Colorado, with his wife, Ann. Gary says, "I am fascinated by the concept of retirement and I think it will be great."

"Solar Physics" to Publish SORCE Mission Topical Issue –

One entire monthly issue of *Solar Physics* will be devoted to the SORCE Mission in 2005. Approximately 15 separate papers will be submitted that explain the SORCE mission, goals, instruments, ground operations, early science results, and science implications. Since the entire issue will be about SORCE, the papers will be made in to a hard-bound book. The publication should come out mid year.

SORCE Science Meeting ***Call for Papers –***

Abstract Deadline – Sept. 10
Registration / Lodging Deadline – Sept. 24

We are pleased to announce the 2004 SORCE Science Meeting – *Decadal Variability in the Sun and Climate*. This NASA/EOS motivated meeting is set for October 27-29 in Meredith, New Hampshire. Complete meeting information is available at -- <http://lasp.colorado.edu/sorce/2004ScienceMeeting/meeting.html>, where you will find a detailed science program description, online abstract and registration forms, as well as lodging and other logistical information. We encourage your participation and hope that you will share this announcement with colleagues.

Discerning the role of the Sun in climate variations on time scales of decades is a challenging task. That climate forcing is well correlated with variations in the Sun's energy output is now relatively well established for total and UV irradiance using high-precision, space-based solar measurements spanning more than two decades. When the Sun is near the maximum of its activity cycle, it is about 0.1% brighter overall, with much greater changes at UV wavelengths. SORCE measures these variations with unprecedented accuracy, precision, and spectral coverage across the UV, visible, and IR. But the climate response to these measured solar variations presents a major puzzle. This SORCE Meeting seeks new understanding of the evidence for and mechanisms involved in decadal variability in the Sun and climate.



Church Landing is a new facility (opened May 2004) at *The Inns at Mill Falls*, where the next SORCE Science Meeting will be held. The Inn's website is <http://www.millfalls.com/>. Lodging information for Church Landing and the other two guestroom facilities at *The Inns at Mill Falls* is available on the SORCE meeting website. We suggest you make your reservations at this popular resort village as soon as you are able to commit – it will fill quickly.

The agenda will consist of both invited and contributed oral presentations and posters. Complete abstract submittal information is available on the website, and the abstract deadline is September 10th. Sessions include:

- Solar Radiation – Status of Current SORCE Measurements
- Decadal Variability in the Atmosphere and Oceans
- Mechanisms and Modes of Decadal Solar Variability
- Climate Variability Modes (e.g. ENSO,NAO/AO, PDO) and Nonlinear Responses

SORCE Represented at COSPAR –

The 35th COSPAR (Committee on Space Research) Scientific Assembly met in Paris, France, July 18-25, 2004. Gary Rottman was an invited speaker in the Thermospheric-Ionospheric Geospheric (TIGER) Symposium, presenting *SORCE Solar UV Irradiance Results*. He also gave an oral presentation called *Total and Spectral Irradiance Variations* in the Influence of the Sun's Radiation and Particles on the Earth's Atmosphere and Climate session. Discussing the latest SIM instrument results, Jerry Harder spoke on *Solar Irradiance Variations in the Visible and Infrared – Observations and Model Calculations*. Juan Fontenla contributed a poster on *Chromosphere-Corona Transition Region Line Emissions*. Tom Woods, SORCE Project Scientist, presented information on solar ultraviolet variability from XPS measurements obtained from the TIMED and SORCE missions.

NASA Issues SORCE Press Release –

Goddard Space Flight Center recently issued an update on the SORCE mission in their on-line Top Story column. "NASA Goes to the *SORCE* of Earth Sun-Blockers" will be released to the general press this month. For the full story, visit NASA's website at -- <http://www.gsfc.nasa.gov/topstory/2004/0730sunblockers.html>.

Upcoming Meetings / Talks –

SORCE scientists plan to present papers or attend the following 2004 meetings:

SORCE Science Meeting, October 27-29,
Meredith, New Hampshire
AGU Fall Meeting, Dec. 13-17,
San Francisco, California

To submit information to this newsletter, please contact:
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