



**SORCE Science Working Group Meeting
Steamboat Springs, Colorado
July 17-19, 2002**

Act NOW - It is not too late!

Hotel Reservations Due - June 20 (call today!)

Abstract Deadline Extended - July 1

The 2002 SORCE Science Working Group Meeting is set for July 17-19, 2002. This EOS SOLAR Radiation and Climate Experiment (SORCE) meeting will focus on the variable Sun and its influence on the terrestrial environment. We encourage the interaction of solar scientists and scientists studying the Earth's atmosphere and climate. Our goal is to define our present understanding of solar/terrestrial variations and possible relationships.

TECHNICAL SESSIONS

Session 1. Short-term (minutes to 2 years) solar variations and terrestrial variations.

Invited Speakers - Jeffrey Kuhn (University of Hawaii), Jesper Schou (Stanford University), Lon Hood (University of Arizona).

Session 2. Medium-term (1-30 years) solar variations and terrestrial variations.

Invited Speakers - Robert Cahalan (NASA, GSFC), Peter Pilewski (NASA, Ames Research Center), Oran R. White (HAO, NCAR).

Session 3. Long-term (> 30 years) solar variations and terrestrial variations.

Invited Speakers - Jeffrey Hall (Lowell Observatory), Judith Lean (NRL), David Rind (Goddard Institute of Space Studies).

There will be a combination of invited and contributed presentations in each session focusing on the solar phenomena and the climate phenomena. There are options for the number of abstracts submitted, depending on the oral or poster presentations for the contributed presentations. Abstracts for the three sessions should be submitted by **July 1 (new extended date)**.

Meeting Abstract Forms, Registration Forms, and detailed program information are available at:

<http://lasp.colorado.edu/sorce/July02ScienceMeeting.html>

Countdown to Launch - November 30

(as of June 25, 2002)

159 Days

SORCE Mission Status

Orbital Sciences Activity -



Orbital Sciences Corporation in Dulles, Virginia.

Now that all the SORCE instruments have been integrated and aligned on the Instrument Module and Comprehensive Performance Testing (CPT) completed, the month of June has been extremely busy with the Environmental Testing well underway. The Pre-Environmental Readiness Review (PERR) took place on May 30 at Orbital Sciences Corporation.

The Environmental Tests involve making sure that the spacecraft is prepared to tolerate the actual launch and



that the spacecraft can survive in the mission environment. Tests include Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) measurement, mass properties, pyro-shock separation system, vibration, acoustics, and thermal vacuum. The testing requires that the spacecraft bus and the instrument module be moved, and mated and demated several times during various phases of testing.



The SORCE Spacecraft with the Solar Arrays deployed.

In early June, the first of the testing began with the EMI/EMC test. This involves making sure that all systems on the spacecraft are electronically compatible, especially in the context of ensuring that the instruments are collecting valid data in all situations. Instrument scientists and engineers are involved in this process to make sure the data collected from each instrument is credible under the circumstances and that the collective system is not susceptible to EM radiation at a wide range of frequencies. These critical tests were successful and the final results well within acceptable limits.

Following the EMI/EMC test, the IM Microprocessor Flight Software was upgraded and the APE (Attitude Power Electronics) change-out occurred. This change replaced an engineering development unit with the APE-B unit, which had successfully passed thorough unit-level testing following rework on its low-voltage power supply. In parallel to the APE-B change-out, both CEU (Central Electronics Unit) boxes were removed for minor rework to their downlink cards. Both of the APEs and CEUs currently installed are the flight units. These APE and CEU change

outs required that the instrument module be separated from the bus.

Vibration tests are scheduled for late June and early July, followed by the acoustic test, where the spacecraft will be exposed to an extreme acoustical environment provided by a producer of rock concerts - seems this environment is very similar to the actual launch. In July the LASP and Orbital team members will be doing the Solar Array Testing/Alignment Verification. Lastly, the solar arrays will be removed and the Thermal Vacuum Testing will begin. The spacecraft will be shipped to Kennedy Space Center in October for final launch preparation.

LASP Activity -

The last SORCE monthly review was held on May 21. As the launch date nears, final integration and testing events and schedules are becoming increasingly critical. The mission is currently on schedule and within budget. Many issues were discussed and action plans put into place to monitor current procedures and resolve outstanding items. The next monthly review is scheduled for June 27 at LASP.

Formal training of the Flight Operations Team has begun with a wide range of experts from LASP and Orbital sharing their knowledge. SORCE specific topics include mission and spacecraft overviews, ADCS, C&DH, flight software, power, thermal, RF&COM, fault detection and correction, as well as instruments. Several new hires, both professionals and students, have been added to the Flight Operations Team to assist in the development and testing of the mission operations system. In addition to the SORCE specific training, the new team members will receive 12 weeks of classroom training in the basics of spacecraft design and mission operations.

The SORCE brochure is progressing. Teaming with NASA writers and graphics personnel, LASP is contributing text and images to create an impressive informative piece. There will be a rough draft available at the July SORCE Science Working Group Meeting. The complete SORCE public relations package will also include a prelaunch video that will go out to the news media before the launch and will be used as a resource when needed following the launch. NASA television producers are coordinating this project with LASP's input. Closer to launch, there will also be video taped interviews with SORCE scientists and NASA Program Directors. There are also plans for an educational SORCE interactive CD-ROM.

Chris Pankratz is leading a team of people who are focusing on the new SORCE Web page. It will start having a fresh new look soon, offering more detailed information on the mission, the SORCE instruments, and the science. Following the launch, the scientific data collected will be a prominent feature on the site. The web page will also meet the needs of the non-technical curious person, and public educators teaching at many levels.



SORCE Science Team News

The Science Team is busy reviewing abstracts for the upcoming SORCE Science Working Group Meeting in July. The science program looks strong, with a wide variety of scientists coming to share their expertise. A summary from the Science Meeting will be published in the July SNS Newsletter and in The Earth Observer, the EOS Project Science Office bimonthly publication.

SORCE scientists are working diligently to get all calibration files together, with the intention of having an Algorithm Theoretical Basis Document (ATBD) review in August. As the Environmental Testing proceeds, the LASP instrument scientists are analyzing data from the various tests to make sure the scientific results from the instruments are valid.

Upcoming Meetings

SORCE scientists plan to present papers or attend the following 2002 meetings:

- SPIE, July 7-11, Seattle, WA
- SORCE Science Working Group, July 17-19, Steamboat Springs, CO
- COSPAR, October 10-19, Houston, TX
- AMS, November 4-8, San Antonio, TX
- NIST Satellite Instrument Calibration Workshop, Nov. 5-7, Gaithersburg, MD
- 2002 Core Technologies for Space Systems, Nov. 19-21, Colorado Springs, CO
- AGU Fall Meeting, December 6-10, San Francisco, CA

To submit information to this newsletter, please contact:

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