

SNS – SORCE News Source

Solar Radiation and Climate Experiment Monthly Newsletter

December 2003



*SORCE Science Meeting Dec. 4-6 * Sonoma, California*

Approximately 80 scientists gathered for the first SORCE Science Meeting since the January 2003 launch. The meeting – ***Physical Processes Linking Solar Radiation and Solar Variability with Global Climate Change*** – focused on the understanding of the physical processes that connect the Sun’s radiation and its variability to our terrestrial environment, including the processes involved with climate and ozone response to solar radiative forcing and the mechanisms that cause solar activity and radiation variations. Attendees enthusiastically shared information, ideas, and opinions over the 2-1/2 days.

With over 60 abstracts submitted, the agenda consisted of both invited and contributed oral presentations and 21 posters. The scientific organizing committee, Judith Lean from NRL and Peter Pilewskie from NASA Ames Research Center, did an excellent job arranging an interesting and provocative program. The detailed agenda, abstracts, and many of the final presentations are available on the SORCE Meeting website –

http://lasp.colorado.edu/sorce/sonoma_science_meeting_agenda.html

The meeting began with three keynote overview presentations from Jack Eddy, V. Ramaswamy, and Jeffrey Hall. The scientific sessions that followed included presentations on:

- Solar Radiation – Status of Current SORCE Measurements
- Solar Radiation – Long-Term Records and Reconstructions
- Long-Term Solar Variations
- Climate Change Processes Involving Solar Radiation in the Troposphere
- Global Change Processes Involving Solar Radiation in the Stratosphere
- Future Directions in Sun-Climate Research



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V. Ramaswamy kicked off the meeting with one of three keynote addresses. He presented an overview on *Solar Variations and Global Climate Change*. John Eddy and Jeffrey Hall also gave opening talks.

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John Eddy was the featured speaker for the Science Dinner. He gave a very interesting historical talk on *Tales of the Sun and Climate*.



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Rich Stolarski, Werner Neupert, and Gary Rottman take a moment to discuss one of the presentations during a break. The informal discussions during this meeting were as valuable as the presentations.



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This SORCE lobby display was transported from its home at LASP. It was later featured in the Sonoma Tribune, the local weekly newspaper.

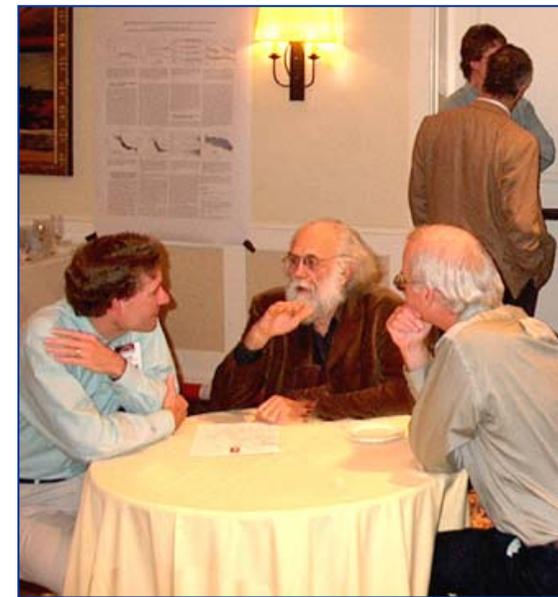




^^ Judith Lean, SOLAR Science Meeting Chair, and Robert Lee (NASA Langley Research Center) discussing one of the many poster presentations. Twenty one posters were featured two afternoons.



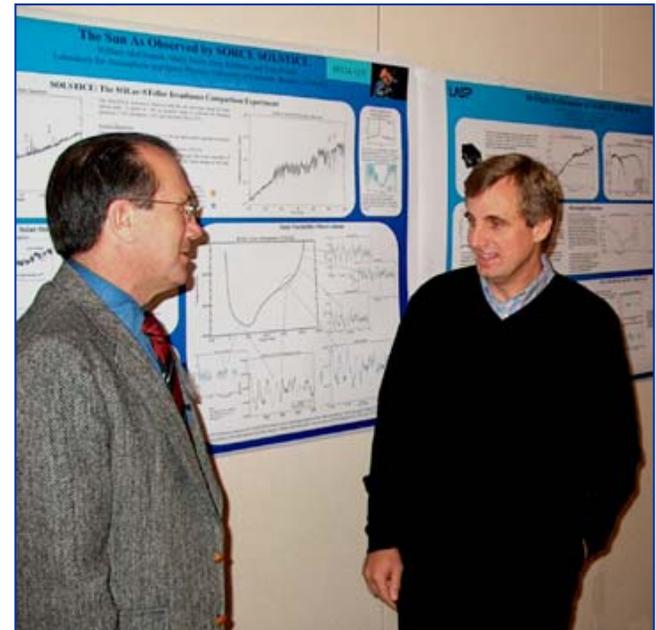
^^ David Rind from Goddard Institute for Space Studies at Columbia University, presented *Mechanisms of Solar Influence on the Troposphere via the Stratosphere*. This talk was part of the Global Change Processes in the Stratosphere Session, chaired by Marvin Geller.



^^ Greg Kopp, Claus Frohlich, and Rock Bush discussing TSI measurement variations.



^^ Greg Kopp explains some of the effects the October 2003 solar activity had on total solar irradiance as measured by SOLAR.



>> Gary Rottman, SOLAR Principal Investigator, and Peter Pilewskie, SOLAR Science Meeting Co-Chair, share a moment. Pilewskie is with NASA Ames Research Center and as a member of both the local organizing committee and the science organizing committee he was instrumental in selecting Sonoma, California as the meeting site.



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Gerard Thuillier and Judith Lean in deep discussion. Dr. Thuillier gave a talk on *The PICARD Mission*, and a poster, *The Solar Spectral Irradiance From 200-300 nm as Measured During the ATLAS and EURECA Missions*.



^^ Leif Svalgaard and Gerard Bond stay after a session to review Leif's notes. Svalgaard gave a talk on *Long-Term Variations in IMF, Solar Wind and EUV Irradiance Inferred From Geomagnetic Activity*.



^^ Gary Rottman and Judith Lean prepare for presentations to be given the next day.



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Jerry Meehl (NCAR), Judith Lean (NRL), Lon Hood (Univ. of Arizona), and Stan Soloman (NCAR) take advantage of one of the breaks.

This *SORCE* Science Meeting was just the right size to facilitate useful interdisciplinary interactions of the sort that Jack Eddy said have been needed for years. Earth atmospheric researchers were interested in learning about the solar spectral irradiance measurements *SORCE* provides and in discussing how spectral irradiance changes can affect different layers of the Earth's atmosphere even on short time scales. Earth radiation balance experts were eager to hear that the *SORCE* total solar irradiance value is lower than what they've been using, and may account for a part of the discrepancy between measured outgoing radiation and incoming solar radiation.

The extreme solar activity in late October 2003 gave everyone a small reminder of how important understanding the Sun and how it influences the Earth is. Several instrument intercomparisons, data validation plans, and future research ideas were discussed informally during the invaluable breaks and will lead to further collaborations using the *SORCE* data. This meeting was productive and enjoyable, and it is likely to be the first of many more.

Next month – SORCE Birthday!

On January 25, 2004, *SORCE* will be celebrating its first year on orbit. Next month's newsletter will feature *SORCE*'s accomplishments and what we look forward to in the future.

Upcoming Meetings / Talks –

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

AGU / CGU Meeting, May 17 – 21, Montreal, Canada

AAS / Solar Physics Division, May 30 – June 3, Denver, Colorado

COSPAR Meeting, July 18 – 25, Paris, France

SPIE – Optical Science and Technology, August 2 – 6, Denver, Colorado

