



SORCE Ops Team Handles Lunar Occultation of the Sun –

By Deb McCabe – LASP, University of Colorado

On March 8, 2016, SORCE experienced a potentially satellite “life-threatening” lunar occultation of the Sun that was not visible to us in Colorado. The spacecraft saw 90% shadow during the event (one orbit) which occurred 5 minutes prior to sunset. This lunar event occurred just prior to the nominal Earth eclipse that the spacecraft experiences every orbit. In order to mitigate the effects on the spacecraft’s degraded battery, the instrument module and heaters were turned off, and thresholds for declaring eclipse (which trigger turning off most everything on the satellite) were lowered. This configuration allowed SORCE’s primary computer to remain powered during the lunar event. Control of the momentum of the satellite by the computer allowed for a better orientation to the Sun at the end of the eclipse and ensured systems would turn on as expected at the next sunrise. Although this was the first time to utilize this configuration for a lunar event, the results were right on target! The satellite maintained adequate battery charge through the lunar occultation and the normal eclipse period immediately following. Well done SORCE operations team!



The EGU session on *Solar Irradiance Variability and its Effect on Climate* was very well attended.

EGU Meeting Solar Session –

By Marty Snow – LASP, University of Colorado

At this European Geosciences Union (EGU) General Assembly, held April 17-22 in Vienna, Austria, SORCE SOLSTICE scientist Marty Snow was the convener for session ST4.6/CL2.05 – *Solar Irradiance Variability and its Effect on Climate*.



The session was focused on the variability of the incoming solar irradiance and its effects on climate – a topic receiving wide attention over the recent years. There is a continuous effort to reduce uncertainties in measurements of the total and spectral solar spectral irradiances. Physical and empirical modelling have also undergone considerable progress in recent years, and the NESSIE code was featured in the keynote talk given by Alexander Shapiro. The half-day session included talks on measurements and models of solar spectral and total irradiance, as well as talks on the atmospheric response to solar irradiance

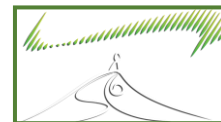
variability and presentations on the comparison of atmospheric effects to different solar irradiance datasets.

Marty gave a presentation at EGU on the Lyman alpha solar spectral irradiance (SSI) line profile observations and models. This research stemmed from the fact that solar Lyman alpha SSI measurements are available on a daily basis, but only the 1-nm integrated flux is typically published. The International Space Science Institute (ISSI) in Bern, Switzerland has sponsored a team to make higher spectral resolution data available to the community. Using a combination of SORCE/SOLSTICE and SOHO/SUMER observations plus empirical and semi-empirical modeling, the team is working to produce a daily dataset of the line profile.

Space Climate School and Space Climate 6 Symposium –

By Greg Kopp, LASP – University of Colorado

SORCE scientist Greg Kopp was invited to speak at this two-part meeting in Levi, Finland, March 30 – April 7, 2016. The meeting included a school for graduate students in solar and climate research, where Greg gave a talk on total and spectral solar irradiances (TSI and SSI, respectively), such as those provided by the 13-year SORCE records. This was an excellent opportunity to inspire the next generation of solar researchers. The following week the international symposium included a session on long-term solar variability, where Greg and collaborator Erik Richard gave a presentation on current and future measurements of TSI and SSI.



SORCE Selects Summer Undergrad Research Students –

Each summer, the SORCE mission funds student research projects in concert with the University of Colorado's Research Experience for Undergraduates (REU) program. For eight weeks, the students come to Boulder, Colorado to work with SORCE scientists on a research project involving measurements from SORCE. The program pays for the students' travel costs and housing, plus a \$500/week stipend.

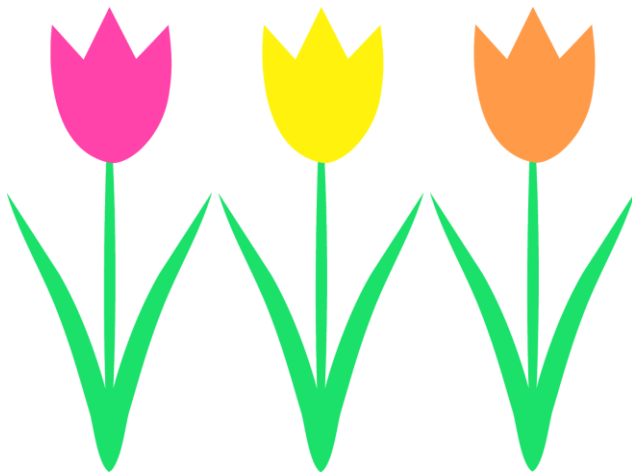


The REU program is led by LASP's Marty Snow and Erin Wood from the EPO dept.

This year the program will start the week of June 6th at LASP with a 1-week lecture series on Solar and Space Physics from experts in the field. The program will run through July 29th, ending with a student symposium where the students present their findings. Marty Snow is the REU Program Organizer for the entire program which includes 19 REU students working interesting solar and space physics projects in several Boulder locations.

For 2016, two SORCE-related projects were selected for the REU program. The project title, mentors, and the REU student selected are:

- ***Navigating the Stormy Geocorona***
Mentors: Marty Snow (LASP) and Janet Machol (NOAA)
REU Student: Zoe Pierrat, Colorado College
- ***Solar Variability and Mars: the MAVEN Extreme Ultraviolet Monitor***
Mentor: Frank Eparvier, Ed Thiemann, and Marty Snow (LASP)
REU Student: Isabel Mills, Whitman College



Upcoming Meetings / Talks –

SORCE scientists will present papers or attend the following 2016 meetings/workshops:

- International Radiation Symposium (IRS) 2016, April 17-22, Auckland, New Zealand, <http://irs2016.org/>
- SOLAR/SOLSPEC Team Meeting, May 9-10, ESTEC, Noordwijk, The Netherlands
- Solar Physics Division, AAS, May 31-June 3, Boulder, CO, <http://www.nso.edu/SPD2016>
- SIST Science Team Meeting, July 12-13, Lanham, MD
- ISSI SHAPE Team Meeting, September, Bern, Switzerland, <http://www.issibern.ch/teams/shape/>
- AGU Fall Meeting, Dec. 12-16, San Francisco, CA
<https://fallmeeting.agu.org/2016/>

