

EVE, AIA, and HMI E/PO Report

For period June 2007

By Deborah Scherrer

1. AIA Activities at Center for Astrophysics, Harvard (Bruce Ward)

The space weather component has been added to a second Challenger mission, Mission to Mars. In the space weather scenario the students are required to learn about the dynamics of space weather and during the mission have to respond (safely!) to a potentially worrisome solar event. The mission will be flown by more than 10,000 kids over the course of the next academic year. Bruce will let us know when other sites start using the Moon mission, the first in which they integrated the space weather component.

Recently Bruce Ward did a presentation at the McAuliffe Challenger Learning Center on SDO and space weather for attendees at one of McAuliffe summer workshops (the central focus in this workshop was on the use of technology for space science). All the participants were teachers - grades 4-12. Bruce had them do one of their classroom activities - measuring the wattage of the Sun (the activity comes originally from their STAR astronomy course) using a simple photometer and a 200-watt bulb (and concepts from the inverse square law). Interestingly, all the participants came up with values right on for the order of magnitude (10^{26}). This can only be done qualitatively with elementary and nearly all middle school kids, and even for some high school kids the quantitative aspect is beyond them. But no matter the age of the kids, all the teachers strongly felt that just being able to introduce them to a behavior pattern for light was a huge step, and that it applied to understanding a feature of the Sun.

Bruce will be doing additional presentations at other McAuliffe workshops, using a different SDO classroom activity for each group. He will complete all of the classroom piloting of the activities in the fall.

2. Space Weather Monitors Program (jointly funded by HMI, NSF/CISM and NASA/SOHO/MDI)

The production run of 60 SID monitors is underway. We expect shipment of the first batch early in July. We have a backlog of approximately 25 monitor orders, most from non-US sites.

Two students from Prairie High School in Wisconsin, Jason Lu and Matt Evans, visited Stanford for two weeks in June to undertake SID projects. Todd Hoeksema, a Prairie alumni, served as host. The students studied various interference patterns associated with SID data. Amongst other findings, they determined that microwave ovens can dramatically interfere with SID reception. The results of their research are available in a PowerPoint presentation at:

http://solar-center.stanford.edu/SID/sidmonitor/SID_Noise.ppt

3. IHY Project (HMI)

The SPA EPO Committee, headed by Scherrer at Stanford, will be providing a teacher workshop at the IHY Space Science Conference and Workshops in Ethiopia next November (see <http://sirius-c.ncat.edu/IHY-Africa/>). In conjunction, this would include special training on use of the SID monitors in classrooms and perhaps delivery of a collection of monitors to Africa.

4. Summer Students at Stanford Solar Center (HMI)

Shannon Lee, our astrophysics summer student, is involved with a program that provides math (and other subject) tutoring to prison inmates. The students are working towards AA degrees which they can earn through the San Quentin Prison system. Most of the roughly 70 instructors, teaching assistants, guest lecturers and tutors who participate in the program in a given semester are graduate students or faculty from the University of California at Berkeley, San Francisco State University, Stanford University, and other local colleges and universities. All work on a voluntary basis. For more information, see:

http://www.prisonuniversityproject.org/about_us.html

Stanford also has a program in this vein: Stanford Beyond Bars

<http://cgi.stanford.edu/group/sbb/cgi-bin/mainUI/index.php>

Haas also have a service-learning course called "Dance in Prisons," which partners with a very successful non-profit called "Fresh Lifelines for Youth" that advocates for juveniles in the juvenile justice system.