

AIA and HMI E/PO Report
Deborah Scherrer
For period 1-31 December 2004

Note that Stanford was shut down for 2 of the 4 weeks in December, thus restricting the Stanford E/PO activities accordingly.

1. Solar Sudden Ionospheric Disturbance Monitor (SID & AWESOME) Project
(jointly funded by NSF's CISM program)

In 1957, in a display of unprecedented international cooperation, more than 66,000 scientists and engineers from 60 nations participated in the International Geophysical Year (IGY1957). Fifty years later, in 2007 and in celebration of the original IGY, the International Heliophysical Year (IHY) will again draw scientists and engineers from around the world in a coordinated observation campaign of the heliosphere and its effects on planet Earth. (See http://ihy.gsfc.nasa.gov/img/Crooker_EOS_2004.pdf and http://www.oosa.unvienna.org/SAP/bss/ihy2007/ihy_brochure.pdf.)

The United Nations Office for Outer Space Affairs, through the United Nations Basic Space Science Initiative (UNBSSI, <http://www.oosa.unvienna.org/SAP/bss/ihy2007/index.htm>), will be assisting scientists and engineers in participating in the preparations for IHY 2007.

The UN BSSI has asked NASA to propose some appropriate education as well as research projects for the IHY. At a recent UN/BSSI Science Organizing Committee Planning Meeting, Dean Pesnell, Project Scientist for the SDO mission, and Emilie Drobnes, E/PO lead for SDO, gave a presentation on the SID and AWESOME monitors as potential projects for the IHY! Details of the meeting, and a copy of the PowerPoint presentation, are available at <http://ihy.gsfc.nasa.gov/events/unbss.shtml>.

The presentation was evidently well-received and the UN expressed interest in both the low-cost (SID) and research-quality (AWESOME) forms of the monitors, for placement throughout developing countries. Apparently, the next step is for the UN to consider the projects that have been presented. Should the UN be interested in sponsoring the SID/AWESOME monitors, we will be asked to put together a more formal and extensive proposal.

2. Challenge Learning Center Collaboration

Two meetings were held at the McAuliffe Challenger Learning Center to begin the development of a new Sun-Earth connection "station" which will be integrated into each of the existing Challenger missions (there are four). The development of the "station" is the first step in designing a full Sun-Earth mission. Bimonthly SED-Challenger design and development meetings will continue into the summer.

3. Science Fellow Service Learning Program *(Partnership with Stanford Solar Center, Montana State University, and Stanford's Haas Center for Public Service.)*

The Fall Quarter workshops at Stanford have been completed and most of the Stanford students were off-campus during the month of December. A full-day workshop given by Cheri Morrow has been arranged for Saturday, 15 January, where the students will learn appropriate science teaching techniques, information about the National Science Standards, how to use hands-on, inquiry-based materials, and information on conducting culturally-appropriate outreach activities in under-served areas. We are exploring the possibilities of providing the workshop to the Montana Science Fellows as well.

Arrangements have been finalized with the Boys and Girls Clubs of the Peninsula to host our student Science Fellows once a week at three sites of the clubs. The students have already visited the participating clubs, but will be given one further day of training and introduction before working directly with the B&GC participants.

4. Medicine Wheel Website, in support of NASA's 2005 Theme "Ancient Observatories Timeless Knowledge"

We have located a new resource to support our Medicine Wheel website. Named Keyhole – the Ultimate Interface to the Planet”, this inexpensive software provided through Google allows us to view actual satellite imagery of the Medicine Wheel environs, “fly around” to see the site and its horizons from different angles, and move up and down to examine the mountainous area in 3-D. The application evidently includes the abilities to add our own photography and imagery as necessary. We are looking into producing a “tour of the Medicine Wheel site” capability into our website. And our high school student, Andrew Heilborn, continues to work on an animation of the Medicine Wheel sunrise at solstice and equinox times.

5. Solar Planetarium Program for Interactive and/or Portable Planetariums

During the AGU in San Francisco, another meeting was held between Lawrence Hall of Science, HMI staff, Pat Reiff of Rice University, and Carolyn Summers of the Houston Museum of Natural Science. We discussed and agreed on our proposed focus for the presentation and went over the 3 possible activities for the interactive show. Reiff and Summers displayed their new portable dome and full-dome projection hardware. Cost of the complete system is around \$60,000. However, we are looking into ways to have available the full-dome projection components separately from the entire package, thus being useful to existing StarLab owners.