

# **AIA & HMI E/PO Report**

*By Deborah Scherrer*

For period January 2006

## **1. Science Fellow/SPOT Program at MSU**

In the Oct-Dec quarter, AIA E/PO continued the SPOT program in collaboration with Montana Space Grant and MSU's Space Science and Engineering Lab. We undertook training of the student presenters, qualified them for visiting schools, and refined the presentation materials. We received a staggering number of requests from schools across the state, and with our partners at UM-Missoula (supported by AIA), addressed a record number of students:

MSU presenters visited the following:

students: 1619

Teachers: 93

Schools: 23

Presentations: 34

U of M presenters visited the following:

Students: 1148

Teachers: 102

Schools: 23

Presentations: 37

In just the fall semester, we reached more students than in all of the previous academic year. The attached map demonstrates the breadth of the geographic area we covered in fall 2005. Finally, we gave a colloquium about the SPOT program to the MSU Physics Department.

## **2. Science Fellow Service Learning Program at Stanford** (*Partnership with Stanford's Haas Center for Public Service, the Stanford Solar*)

Haas hosted their Science Fellow training last week. 12 volunteers and 9 Mentors participated. Unfortunately, 5 additional volunteers were lost to scheduling and overcommitment issues, issues typical of Stanford undergraduates. The training went very well and the students are ready to begin their work at the Girls and Boys Clubs. We are arranging to train the Science Fellows in the solar planetarium program jointly developed by Lawrence Hall of Science and HMI. The Science Fellows will then take the Starlab and materials for use at the Boys and Girls Clubs.

## **3. Space Weather Monitor (SID & AWESOME) Project** (*jointly funded by NSF's CISM program and NASA's MDI instrument on SOHO*)

SID Product Ship began in January, with the first 4 non-local monitors being Express Mailed to key sites. Ray Mitchell, Chief Engineer, and Deborah Scherrer developed a completely updated version of the manual, distributed in both paper and electronic form, and Mitchell generated a SID Powerpoint presentation we also included with the distribution. The installation software is complete, painless, and takes advantage of the Microsoft install features. As a test, we brought up one of the systems ourselves, including designing our own antenna. We were able to set up the entire station in a few hours and began taking data with virtually no problems at all.

We currently have 13 SID sites nationwide, mostly high schools, and 18 AWESOME sites worldwide, primarily universities. We hope to double the number of SID sites in February. Most common problem reported by sites receiving monitors was difficulty in obtaining antenna wire. Professor Phil Scherrer researched this, experimented with some wire, and we are now providing information on where cheap-and-easy wire can be ordered through the internet.

To handle support we have both set up a blog at [blogspot.com](http://blogspot.com) and an email alias: [SID@sun.stanford.edu](mailto:SID@sun.stanford.edu). Both these mechanisms are already in use by monitor recipients. We will also be looking into something that provides more functionality than [blogspot.com](http://blogspot.com). Yahoo Groups is one option, hosting our own is another.

Ray Mitchell, our engineer/teacher, is busy finishing the new frequency boards necessary for these far-away locations. We've added NML in North Dakota and NAA in Maine. These complete the continental US stations.

Because we have sites in Puerto Rico, England, and Netherlands ready to go, we also need to develop frequency boards for the non-US monitors. The frequencies of NAU (40.8 KHz) and GYA (London 21.37) are out of the range of our current frequency boards. Mitchell is in the process of calculating the correct resistor values for these, then will tune and burn in the new boards.

One of our Master Teachers, at Deer Valley High School in Antioch, CA, contacted us about difficulty arranging for a computer to support their SID system. Thanks to extreme efforts by Brian Roberts, we were able to locate, prepare, and deliver them a loaner computer the next morning.

We are in desperate need of funding for purchasing and distributing AWESOME monitors. (MDI has funded 100 SID monitors but we have exactly zero funding for AWESOME equipment.) 16 of the 18 AWESOME sites in the count above were placed by Professor Umran Inan and his group. They are being used as research tools in a university environment. We would like to place our AWESOMES in community colleges, high schools, and science museums. The search has begun in earnest for funding our research-quality monitors.