

2011 SPD Members' Meeting
Monday, 13 June 2011
Atkinson Hall, NMSU (8:00pm – 10:23pm)

1. Chair's report (Shadia Habbal):
 - A. Election Results: Jon Linker and Janet Luhmann are elected as new committee members. Thanks to all nominees. Thanks to the retiring members for service on the committee: Alex Pevtsov and Bill Abbett.
 - B. Awards:
 - Hale Prize: Henk Spruit (Max Planck Institute, Garching)
 - Harvey Prize: Matthias Rempel (HAO, NCAR)
 - Popular Writing Awards:
 - Journalist category: Alex Witze (ScienceNews)
 - No award in the Scientist category

2. Treasure's report (David McKenzie):
 - A. Status as of 12/31/2011
 - Dues in 2010, \$5146
 - Donations in 2010, \$2734
 - Investments portfolio grew by \$28,583 (Mixture of increased market value, interest income, minus advisor's fees)
 - Miami meeting expenses, \$1423
 - Nine students got travel awards in 2010
 - B. Recent activities
 - Hale & Harvey prizes, writing award, student poster award (total \$2900)
 - 10 studentship awards (5spd funds + 5 NSF funds)
 - ~\$500 E/PO for 2011 meeting (so far)
 - Brings the general funds to \$79k, before considering new revenue
 - Also available, NSF grant for student travel to meetings, administered by NMSU: \$15k/yr for 3 years
 - C. Budget allocations for 2011/2012:
 - \$5,000 for student travel support
 - \$2,000 for Education/Public Outreach
 - \$7,500 for travel support for Congressional Visits
 - \$1,000 for general expenses

3. Secretary's report (Yuhong Fan)
 - A. Division membership update (change from last year):
 - Total: 576 (+13)
 - Full members: 333 (+5)
 - Junior members: 47 (+6)
 - Associate members: 36 (-9)
 - Division Affiliates: 88 (+8)

- Emeritus members: 67 (+2)
 - International Affiliates: 4 (+1)
 - Corporate member: 1
- B. Good election turnout this year (30%)
- C. Current SolarNews subscribers: 1536
- D. Remember to pay membership dues on time so that memberships do not become inactive
4. Vice chair's report:
- A. 2011 meeting Highlights:
- 300 registrants for this meeting
 - Profit larger than expected because of the much larger than expected attendees
 - 7 invited talks: Prize talks, 3 Parker lectures Bill, Judy, Marc, Special invited lecture: Alen Stern, Public lecture: Dean Pesnell
 - 3 Special Sessions: ATST, BBSO, SDO
 - 70 Oral presentations, including 8 dissertation talks we had 134 request for oral presentations, 170 Posters
- B. SPD committee will send out a survey to get community input about how to address the issue of oversubscription of oral talks
- C. Future meetings:
- 2012 with AAS in Anchorage, Alaska June 10-14
 - 2013: Standalone, Bozeman, Montana
 - 2014: Request for proposals to appear in Solar News
 - 2015: in conjunction with IAU General Assembly in Hawaii
 - Discussions about maintaining meetings with the AGU for our spring meetings. Jim: include questions in the survey about the meeting with the AGU.
5. AAS-SPD Connection (Kevin Marvel):
- A. Love to be at the division meeting. Thanks to LOC, thanks to the SPD committee's work. SPD is the 3rd largest division of the AAS, but 1st in endowments (lots of donations).
- B. Services AAS provides:
- Meeting support service (such as SPD meeting, special topical meetings, abstract processing)
 - AAS owns the ApJ, transition to IOP has been good; Officers are insured, non-profit, donations are tax deductible
 - Communication: Public policy activities; For rolling out of the heliophysics decadal survey, AAS will support a congressional visit by 10 solar physics (support 50% of the cost).
 - 2012 meeting is going to be exciting
- 6.NSF report (Paul Bellair):

- A. NSF grant to support student travel, Alex and Jason worked together to make this possible.
- B. NSF's statutory Mission: "To promote the progress of science; to advance the national health, prosperity and welfare; and to secure the national defense."
- C. Overview of NSF Solar Research Funding sources
- D. STR Budget detail: 2011 at about the same level as 2010
- E. 2011 Committee of Visitors Convened at the NSF 4-6 May: NSF relies on the judgment of external experts to maintain high standards of program management, to provide advice for continuous improvement of NSF performance, and to ensure openness to the research and education community served by the Foundation. Committee of Visitors (COV) reviews provide NSF with external expert judgments in two areas:
 - assessments of the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions; and
 - comments on how the outputs and outcomes generated by awardees have contributed to the attainment of NSF's mission and strategic outcome goals.
- F. Public Outreach opportunities I: The NSF's Directorate for Education and Human Resources has funded the Pacific Science Center in Seattle, Washington to promote informal science education at regional museums and to develop active researchers as ambassadors and communicators for science. Key activities of the project include the Portal to the Public (bringing scientists and the public together) and the Science Communication Fellowships (providing interested scientists with the skills needed to effectively engage the public). Interested researchers should visit the Portal to the Public web site:
<http://www.pacificsciencecenter.org/Portal-to-the-Public/portal>
- G. Public Outreach opportunities II: The NSF's Directorate for Education and Human Resources has also funded the Zooniverse online project to promote "citizen science." The Zooniverse concept is designed to provide private citizens with an opportunity to assist in the analysis of extremely large datasets. Science thus benefits by exploiting the unique discriminating power of the human mind and "the wisdom of crowds." This form of "citizen science" is a powerful tool for education. See:
<http://www.zooniverse.org>
- H. Other STR Interest Items:
 - The transition of NSO and ATST from AST to AGS is still a "work in progress". Please stand by.
 - The National Space Weather Program will be refocused and restructured for FY2012, hopefully with an interagency emphasis. Please keep an eye on the AGS web site for updates.
- I. Important info for all proposers: Proposal & Award policies and procedures

guide Awardee's reports to NSF: NSF 11-1, Read and Heed!!

- In addition to your Final Report to the NSF, you must now submit 'Project Outcomes' online for the public, at <http://www.research.gov>
- Your funding increment – and that of any of your current Co-PIs on any NSF grant – is delayed until your annual report is approved!
- Please submit a No Cost Extension if you cannot expend your annual budget due to unforeseen circumstances – do not just delay the submission of your annual report ...

J. Review requests

- Unless you've been informed that your review is for a special competition or a specific panel, your review is for a proposal submitted to my core STR program. I need to obtain a minimum of 3 written reviews within 6 months.
- Solicited NSF competitions have deadlines and are reviewed by panels. However, reviews for unsolicited STR proposals are strictly mail-in, and do not have hard deadlines (other than the NSF's '*de facto*' 6 month rule). I would prefer to receive a delayed review than none at all!

K. Public service announcement:

- When you provide a review, you are not doing me or the NSF a 'favor' – you are performing a key role expected of all scientists! No one can be funded without reviews. The merit review process requires your participation to function. All reviewers benefit by remaining on the cutting edge of research topics and ideas – and by helping their colleagues & community.
- Some of you who cannot be funded by the NSF (by order of Congress, not by my whim!) feel you have no obligation to the community to provide the NSF with reviews. This odd and erroneous belief is non-collegial at best and unprofessional at worst.
- I routinely receive reviews from foreign colleagues who will NEVER receive NSF funding! They understand the meaning of a "solar physics community" – shame on those of you who do not...

L. George's question: postdoc program only for US citizens? Answer: Yes, the postdoc is the PI, and the grants are directly to the PIs, therefore only US citizens can be the PIs. Must give indication where to take the award, insurance is covered by the NSF, but support of office space etc. need to be explained by the institutions. Alexander Question: How do you handle benefits? Answer: this has been worked out in other institutions in the past.

7. NASA's Heliophysics Division of SMD report (Jeff Newmark):

- A. Great time for heliophysics: fleet of operating spacecrafts
- B. FY12 budget request: Heliophysics is up.
- C. NASA mission launches: 2012 IRIS will launch, 2014-15 MMS, 2017-18:

solar orbiter, solar probe+

D. Solar and Heliospheric News:

- Roses 2009 selections: bad year, 19 (out of 123) selected for funding (1LCAS, 2 IDP), \$2.4M/year
- Roses 2010 SR&T program have received: 175 proposals (151 SHP SR, 13 LCAS, 11 IDP), anticipate \$4.7 M in new first-year funding to be available, 30-35 proposals, <1:5.6 acceptance, August announcement.
- Next year due date mid March (same): NOI=1/20/12, Proposals 3/16/12

E. Several sub-orbital successful launches: delays in 2010 and 2011 WMSR dues to Thrust Termination system availability and Black Brant combustion instability issues.

F. Future years – expected funding levels are similar.

G. Heliophysics GI Program:

- ROSES 2010 not solicited
- ROSES 2011 NOI due 7/22/11, Proposals Due: 9/23/11

H. Heliophysics theory program

- ROSES 2010 10 proposals selected, ~\$4M/year

I. Mission Senior Review: officially moved to a 3-year cycle

J. A decadal strategy for solar and space physics (heliophysics), May 2012.

K. New Mission News:

- SDO launched Feb. 11 2010
- Solar Orbiter Collaboration – Instruments selected, Extended Phase A – Waiting ESA Mission Confirmation
- Solar Probe Plus – Instruments Selected for Phase A
- Radiation Belt Storm Probe (RBSP): Launch NET May 2012, mission has completed its system integration review (SIR) and is now in the midst of integration and testing. RBSP will provide unprecedented insight into the dynamics of the Earth's radiation belts and give scientists the data they need to make predictions for this critical region of space. With two spacecraft taking identical measurements and following the same path, scientists can begin to understand how the belts change in both space and time.
- Magnetospheric Multiscale (MMS): Launch NET Aug. 2014, mission has completed its Mission Operations Center and Science Operations Center Preliminary Design Review and is preparing for mission System Integration Review in early calendar year 2012. MMS is a four-spacecraft mission to study magnetic reconnection, providing better understanding of this primary process by which energy is transferred from the solar wind to Earth's magnetosphere.
- Interface Region Imaging Spectrograph (IRIS) – Launch Dec. 2012.

L. Sounding Rocket Program: Sounding rocket manifest in jeopardy due to (1) Technical issues with Black Brant motor and (2) Schedule delays of the new Thrust Termination System used for White Sands Missile Range launches.

M. Explorer Program:

- Proposal received Feb. 16, 2011
- Selection for competitive Phase A studies: Summer 2011 (target)
- Concept study reports due: August 2012 (target)
- Down-selection: February 2013 (target)

N. Personnell Changes

- Dr. Fisher has announced upcoming retirement
- Current Discipline Scientists (Solar and Heliospheric):
SH SR&T:
Jeffrey Newmark (Solar Discipline Scientist, SR&T Program Scientist)
Arik Posner (Heliosphere Discipline Scientist).

LWS:

Madhulika Guhathakurta (Program Scientist)
Charles Goodrich (Deputy Program Scientist)
Robert Leamon (Deputy Program Scientist)

HGIP and MO&DA

Jeffrey Hayes – Program Executive, Program Scientist (IBEX, Archives)

Geospace SR&T

Mona Kessel: Geospace Discipline Scientist
Dave Rusch: Deputy Program Scientist

O. Solar Physics Website:

<https://scienceworks.hq.nasa.gov/web/jnewmark/home>

8. Solar C: JAXA Solar-C program (Jeff Newmark)

- A. Announce selection of Plan B Option - Toward understanding of the elementary structures & fundamental physical principles that govern magnetized plasma – Earth orbit, high spatial, spectral, temporal resolution.
- B. Hold Plan A option for Solar D in the Mid 2020s
- C. Plan B Strawman:
- SUVIT–SolarUV-Visible
IR Telescope, 1.5m aperture diameter, 0.1 arcsec spatial resolution, FOV 180°x180°, polarimetry in photosphere and chromosphere
 - EUVS–EUV/FUV high-throughput spectrometer, 30-40cm aperture, ~0.3 arcsec spatial resolution, plasma in range of 10⁴ – 10⁷ in active regions with $\Delta(\log T) < 0.3$
 - XIT – X-ray Imaging Telescope, ~1 arcsec spatial resolution, ~0.5-5 keV* (baseline) or EUV pass bands, e.g. SDO – design TBD
- D. Programmatics
- Possible JAXA AO Fall 2011

- Launch earliest = winter JFY 2018
- Threats: Funding due to other JAXA missions and of course Earthquake recovery

9. LWS Report (Lika):

- A. Decadal survey will guide where the emphasis will go: instrumentation, modeling...
- B. LWS missions:
 - SDO doing well. Many press coverage. We wish have more dollars to support work to use the data.
 - Solar Orbiter collaboration: fixed cost budget contribution has met difficulty because launch vehicle cost increased, needs to get money from something else. Removed two instrument payloads. ESA is looking into how to recoup science. Need to solve these problems within the programs. The solar probe faces the same problems.
- C. TR&T 141 proposals, announced 32 awards. A few sun-climate proposals to be announced.
- D. Sun climate workshops: first in the fall, Sun as a variable stars and its impact on earth climate.
- E. International LWS program, there will be a meeting in Beijing.
- F. National Space Weather program: conducting survey with all member agencies about where we are in space weather forecasting. Also holding on June 21, National Space weather forum.
- G. Send science nuggets and major papers to LWS program.

10. NSO report (Steve Keil):

- A. Community workshop at Boulder on ground based solar astronomy, May 13-14, 2011.
- B. Congratulations to Jack Harvey on receiving the Arctowski Award
- C. ATST status: got permit to build in December on Heleakala, immediately challenged in court, hearing July 18. BLNR approved habitat conservation plan at 27 May 2011 meeting. The interim Special Use Permit is in place and the Haleakalā National Park (HNP) continues to issue temporary permits, as required.
- D. Contract Awards to Date: received half of the money for building ATST
- E. Status of the construction
- F. Instruments
 - Diffraction-Limited Near-Infrared Spectro-Polarimeter (DL-NIRSP), Univ. of Hawaii, PDR next week
 - Cryogenic Near-Infrared Spectro-Polarimeter (Cryo-NIRSP), Univ. of Hawaii, PDR next week
 - Visible Tunable Filter (VTF), Kiepenheuer Institution, Kick-off meeting held in April, CoDR in October
 - Visible Broadband Imager (VBI) – blue channel, critical design

- underway.
- Polarimetry Analysis & Calibration
- G. Coudé Station Instrument Layout
- H. DST facility instruments
 - Facility instruments:
 - IBIS – Interferometric Bidimensional Spectro-polarimeter
 - FIRS – Facility Infrared Spectro-Polarimeter
 - DLSP – Diffraction Limited Spectro-Polarimeter
 - SPINOR – Spectro-Polarimeter for INfrared and Optical Regions
 - Supported Instruments:
 - ROSA – Rapid Oscillations in the Solar Atmosphere
- I. DST Support for ATST
 - Develop service observations
 - Develop ATST data pipelines
 - Develop community data reduction algorithms w/partners (HAO, IFA, Arcetri, KIS ,..)
 - Train students and post-docs –future users and support staff of ATST
 - Advance ATST science objective definition and ATST observation planning
 - Refine ATST operations model
- J. McMP Facility instruments
 - Facility Instruments:
 - NAC – NSO (Infrared) Array Camera
 - IRAO – Infrared Adaptive Optics
 - Vertical and Stellar Spectrographs
 - FTS – Fourier Transform Spectrometer
 - IFU – Integrated Field Unit
 - Supported Instruments:
 - Zimpol I and II - The Zurich IMaging POLarimeter
 - Celeste – 12 micron magnetograph
 - Athena
 - SHS
 - THIS
- K. Synoptic Program
 - Combines SOLIS and GONG into a comprehensive synoptic system
 - Scientific goals: Life cycle of surface B, dynamo, cycle mechanism, internal dynamics
 - Functional goals: Synoptic operations, data processing and distribution, new community products, space weather
 - Organizational goals: Greater efficiency, coordinated
- L. Solis Status
 - FDP & S5T (The Small Synoptic Second Solar Spectrum Telescope) deployed on SPAR
 - VSM working well, inversion working, magbias fixed

- Data to be used to drive SWPC geomagnetic storm forecast
- Looking for acceptable modulator for upgrade to chromospheric line

M. GONG status

- H- α deployment complete - AFWA operational support
- Magnetic field products to be used for Space Weather operations (NOAA/SWPC/CISM/AFRL) starting Sep 1, 2011
- GONG producing HMI far-side maps
- NASA/JPL SAFARI proposal for stereo helioseismology would place new instrument at 3 or 4 GONG sites

N. NSO Directorate Location

- Received 7 proposals: USC, U.C. Berkeley, U. of Arizona, U. of Colorado, New Mexico State Univ., Montana State Univ. U. of Alabama Huntsville
- Review Panel:
 - o Jim Kennedy, Chair (Former Gemini, NSO staff)
 - o Thomas Rimmele, NSO scientific staff
 - o Priscilla Piano, NSO administrative staff
 - o Kim Streander, NSO engineering staff
 - o Val Schnader, STScl administration
 - o Oskar von der Lühe, AURA Board, Keipenheuer Institut
 - o Art Poland, George Mason University scientific staff
 - o Jack Thomas, University of Rochester scientific staff
- Finalists: U. of Colorado, U. of Alabama
- AURA begins negotiation, this fall make selection, and will become part of the corporative agreement

11. HAO report (Michael Thompson):

A. Change of HAO management: Michael Thompson (Director), Gang Lu (Deputy director) and Steve Tomczyk (Associate director for instrumentation)

B. Selected developments in past year

- Development and adoption of new HAO strategic plan (Sep-Dec 2010)
- NSF science review (March 2011)
- Deployed CoMP Coronal Multi-Channel Polarimeter
- MLSO telecoms upgrade
- COSMO K-coronagraph (PDR in Aug 2011), to be deployed 2012
- ViSP / ATST (PDR in Jan 2011)

C. Some metrics for 2010

- Two-thirds of all our papers produced were with university co-authors
- 130 institutional collaborators in 2010
- 79 visitors in 2010 (including 21 graduate/undergraduate students): 11 from US universities, 12 from other US labs and corporations, 13 from other countries
- 150 student participants at the CEDAR workshop in 2010

- Now have over 450 registered users of MLSO data
 - Now have over 2400 Gbytes of CSAC data holdings in period
 - Some highlights from the NSF Science Review of HAO March 2011
 - Numerical simulations of sunspot structure (Rempel et al.)
 - Influence of Cusp O+ outflow on magneto-tail (Wiltberger et al.)
 - Time-distance helioseismology of the solar corona with CoMP
 - Matthias Rempel won 2011 Harvey Prize
 - HAO staff won 4 out of 7 UCAR Annual awards, one of which is the distinguished achievement award to Bruce Lites.
- D. Databases: HAO continued in 2010 to support the solar-terrestrial community by serving or supporting several databases
- Mauna Loa Solar Observatory (MLSO) data and images
 - Community Spectro-Polarimetric Analysis Center (CSAC) data and tools including HINODE data
 - Coupling, Energetics and Dynamics of Atmospheric Regions (CEDAR) database
 - Thermosphere-Ionosphere-Mesosphere Energetics and Dynamics (TIMED) data
- E. HAO Visitor program: A “jewel in HAO’s crown”, the Visitor Program supports early-career postdocs and established researchers, and both short- and long-term visits.
- F. Training of Earlier-Career Researchers
- Encouraging entry from underrepresented populations through the SOARS Program and outreach activities
 - Mentoring summer undergraduate students on the REU Program
 - Organization of and participation in summer schools
 - Training graduate students (with support from HAO base funds and NCAR’s ASP Graduate Fellowships)
 - Training of postdocs (with support from HAO base funds and the ASP)
- G. MLSO:
- MLSO is undergoing a major program of new instrumentation including the Coronal Multi-channel Polarimeter (CoMP) instrument (recently deployed), and a K-coronagraph (funded and under construction).
 - With one-time NSF funds, we recently upgraded the telecoms bandwidth from MLSO by a factor of about 20, which will allow CoMP data to be brought back in near-real time for dissemination to the user community.
 - *CoMP is the most flexible instrument at MLSO – potential as a community resource with PI-driven observations alongside synoptic program.*
 - *Please come to the session on using the CoMP data at the SHINE workshop July 11–15.*
- H. COSMO:
- The COronal Solar Magnetism Observatory (COSMO) is a proposed facility dedicated to studying coronal and chromospheric magnetic fields

and their role in driving solar activity such as coronal mass ejections (CMEs).

- COSMO, a consortium of the University of Hawaii, NCAR, and the University of Michigan, is comprised of 3 instruments: 1) a 1.5 meter coronagraph dedicated to the study of coronal magnetic fields; 2) a chromospheric and prominence magnetometer (ChroMag); and 3) a K-coronagraph. The facility will take continuous daytime synoptic measurements of magnetic fields in the solar corona and chromosphere, in order to understand solar eruptive events that drive space weather, and to investigate long-term phenomena.

12 BBSO report (Phil Goode):

- A. New Solar Telescope in Big Bear: NJIT team has built the world's largest aperture and most capable solar telescope
- B. NST and its scientific instruments
 - Nasmyth focus for first light and focusing.
 - Fully cryogenic spectrograph (CYRA)
 - Adaptive Optics (AO)
 - Visible light Imaging Magnetograph (VIM) and InfraRed Imaging Magnetograph (IRIM) and Fast Imaging Solar Spectrograph (FISS).
 - Thanks to NSF, AFOSR, NASA, KoSF and most importantly NJIT.
- C. Images from NST
- D. Data for the community
 - Summer 2011: Data on-line: Typically AO and speckle reconstructed FTS files with 10-15 s cadence and 60"x60" FOV.
 - We often follow Hinode targets and have joint campaigns with Hinode
 - <http://www.bbsso.njit.edu>
 - http://www.bbsso.njit.edu/~vayur/nst_gallery.html
 - Goal is to provide data at near real time, there will be tutorial on use of the data.

13. EPO report (Zoe Frank):

- A. Change of membership: Following this meeting, Ignacio agreed to accept the position of Chair. Martha is running AstroZone, Exploration Station, and other SPD integrated projects and we welcome her as a vital member of our committee.
- B. Budget
- C. Meeting related events.
- D. What's next: Venus transit in 2012

14. Shadia: The total solar eclipse of 2017 August 21, cross-US continent.

Meeting adjourns 10:23pm.