

Solar Physics Division -- 2000-2001 Annual Report

Judith T. Karpen, Chair

The purpose of the Solar Physics Division (SPD) is the advancement of the study of the Sun and the coordination of such research with other branches of science. Any member of the AAS may join the SPD by application to the Treasurer of the SPD. Affiliate membership is provided for persons who are not members of the AAS but who are members of another recognized scientific society with interests related to solar physics.

Membership in the SPD as of April 29, 2001 stood at 350 full members, 56 emeritus members, 52 student (under 30) members, and 87 affiliate members (including emeritus and student affiliates), for a total of 545 members. Annual dues are \$8 for AAS members and \$10 for affiliates.

In 2000 John Leibacher was elected Vice-Chair, Steve Walton was re-elected Secretary, and K.D. Leka and Thomas Rimmele were elected to the SPD Committee, replacing Karen Harvey and Peter Gilman. At the 2000 SPD meeting, Judy Karpen continued as Chair and Stephen Kahler became Outgoing Vice Chair. Officers completing their terms at the 2001 SPD business meeting are Judy Karpen (as Chair); Dale Gary (Treasurer); and Committee members Mark Giampapa and J. Todd Hoeksema. Thereafter, Judy Karpen will be an Outgoing Vice Chair until June 2004; Steve Kahler will continue as Out-Going Vice Chair until 2002; Stephen Walton will continue as Secretary until 2003; and K.D. Leka and Thomas Rimmele continue as Committee members until 2002.

The SPD liaisons are Thomas Ayres (stellar astronomy), James Chen (plasma physics), Victor Pizzo (solar-terrestrial physics), and Vahé Petrosian (high-energy physics). James Chen has been instrumental in increasing the visibility of solar physics within the plasma physics community by organizing talks and sessions at APS and DPP meetings. Last April, for example, he organized a session on the physics of solar and stellar winds with 4 SPD members as speakers (T. Holzer, S. Cranmer, S. Owocki, and P. Liewer). This April, he helped organize a session on energetic solar phenomena with speakers R. Howard, R. Fisher, J.-L. Bougeret, J. Miller, and J. Chen (all but one are SPD members).

Thanks to the SPD press officer -- Craig DeForest -- and "stellar" activity by members, their institutions, and the NASA PAO, SPD has been strong in press outreach this year. Major coverage included TRACE images appearing in LIFE's "photographs of the year" 2000 issue, an episode of NASA's Space Science Update program on the solar maximum, and press releases and/or conferences on helioseismology, coronal heating, CME propagation, and the progress of the solar cycle, all reaching audiences measured in the

tens of millions via television and print media. Several large flares in March 2001 received coverage in the press. Several press conferences are planned for the upcoming meeting in tandem with AGU (see below), and activity is planned in conjunction with the June 21 total eclipse of the Sun.

The 2000-2001 Nominating Committee consists of James Klimchuk (Chair), Markus Aschwanden, and Deborah Haber. The Hale Prize Committee consists of Ernest Hildner (Chair), A. Gordon Emslie, Barry LaBonte, Shadia Habbal, and Eric Priest. The Popular Writing Award Committee consists of Jeff Brosius (chair), Leila Belkora, Mark Giampapa, David Smith, and Aad Van Ballegooijen. The SPD Studentship Committee is chaired by A. Gordon Emslie. Two SPD members, John Thomas and John Mariska, are scientific editors for the *Astrophysical Journal*. One SPD member, John Leibacher, was elected to the AAS Nominating Committee for the term 1999-2002. SPD members Dimitri Mihalas and Ellen Zweibel were elected to serve as AAS Councilors for the term 2000-2003, and Tom Ayres for the term 2001-2004.

The SPD sponsors the George Ellery Hale Prize, awarded to a scientist who has made outstanding contributions to solar physics. The 2001 Hale Prize is being awarded on June 7, at the 198th Meeting of the AAS, to Alan Title of Lockheed-Martin for "his exceptional leadership in developing multiple, innovative, high resolution telescopes and interpreting their data to dramatically advance our understanding of the sun and for his generous public service on behalf of the solar and solar-terrestrial communities." In January 2000 the AAS Council approved the following changes to the SPD by-laws regarding the disposition of the Hale Prize:

In Paragraph X.1, remove "normally to be awarded every two years" from the first sentence, remove "joint" and "and the Division" from the second sentence. In Paragraph X.1.f, delete the first sentence.

The proposed changes were voted on and approved by the SPD membership before the 2000 SPD meeting, so the Hale Prize can be given annually instead of every two years.

In 2000 the SPD held a separate meeting June 18-23 at Lake Tahoe (Stateline, Nevada), hosted by the solar group of the Lockheed-Martin Corporation. The scientific organizers were Steve Kahler and Karel Schrijver. This meeting had 275 attendees, with 68 oral and 176 poster presentations, and was highlighted by an all-day program dedicated to NASA's Living with a Star Initiative. The four LWS sessions dealt with the program of LWS and the future of solar physics; the solar connections to other disciplines; the space weather aspects of solar physics, and the solar-stellar connection. Other special sessions were focussed on waves as a tool in

solar physics, solar chromospheric models, the structure of the transition region, and near-future instrumentation. In addition, a lively and well-attended public lecture was given by 2000 Hale Prize winner Loren W. Acton.

The following students received Studentship awards with financial support from the SPD to attend the Tahoe meeting: Dibyendu Nandi (Indian Institute of Science), Scott Catanzariti (NSO), Timothy Q. Donaghy (Stanford U.), Christopher P. Marino (U. of Memphis), Sebastian J. Jimenez Reyes (HAO), Markus Roth (Albert-Ludwigs U.), Benjamin H. Schoepke (U. of Memphis), Guo Yang (NJIT), and Jun Lin (U. New Hampshire).

The fourth annual SPD Popular Writing Awards, initiated to encourage public education about the Sun and heliosphere, were presented at the 2000 SPD meeting. The 2000 awardees for articles appearing during CY 1999 were Peter Weiss, for his article "The Sun Also Writhes" (Science News, March 27, 1999); and Sten Odenwald, for his article "Solar Storms" (The Washington Post, March 10, 1999).

The 2001 annual meeting of the SPD will be held jointly with the annual Spring meeting of the American Geophysical Union, May 29-June 2, in Boston, MA. The scientific organizer is SPD vice chair John Leibacher. Special SPD sessions include: a preview of this year's Hale Prize lecture, by Alan Title; "Nanoflare Statistics, Self-Organized Criticality, and Coronal Heating"; "Physical Mechanisms of Solar Luminosity Variation"; and "Helioseismology and Variability of the Solar Interior". In addition, several other sessions on abundance variations, solar wind acceleration, CMEs, coronal heating, and longterm trends in space weather were organized jointly with the AGU's Solar and Heliospheric Physics (SH) section. The SPD/SH portion of the program consists of 294 papers (125 posters and 169 talks) in the regular and special sessions. The SPA/SPD Dinner and special showing of the SolarMax 2000 IMAX movie will be held at the Boston Museum of Science, May 29, with generous sponsorship from NASA, NSF, AFRL, Boston Univ., Harvard-Smithsonian CfA, MIT, Tufts Univ., and Univ. of New Hampshire. Six SPD studentships were awarded to enable the following students to attend this meeting: Jonathan Cirtain (U. Memphis), Angela Coleman (Montana State), Derek Hammer (Catholic U./GSFC), Patricia Jibben (Montana State), Erica Raffauf (Indiana U./NSO), and Yan Xu (NJIT). SPD activities and solar physics in general will be promoted throughout the meeting by the SPD booth, which is set up and staffed by Zoe Frank (Lockheed) with occasional relief from various SPD volunteers. In 2002 and 2004 the SPD will be meeting jointly with the AAS in Albuquerque and Denver, respectively.

In 2000-2001 the frequency of the SPD electronic newsletter, SolarNews, continued to be two regular issues per month. The SPD Secretary, Stephen Walton, who is the editor, also produced a number of special issues of SolarNews containing timely items, in addition to the regular bimonthly issues. Current and back issues of SolarNews are available at <<http://www.gong.noao.edu/SolarNews/>>, which is a WWW site maintained by John Leibacher (NSO). Further information about the SPD and an online membership application form can be obtained from the Division's WWW site at <http://umbra.nascom.nasa.gov/aas_spd/>, maintained by Joseph Gurman (GSFC).