

COMMISSION No. 44
ASTRONOMY FROM SPACE
(L'ASTRONOMIE À PARTIR DE L'ESPACE)

Report of Business Meeting, August 24, 1991

PRESIDENT: E. B. Jenkins

SECRETARY: K. G. Carpenter

1. New Officers of the Commission

A motion was adopted that approved the usual transition of leadership, where the current vice-president will assume the office of president for the forthcoming triennium. Thus, J. Trümper will replace E. B. Jenkins, and Dr. Jenkins will remain on the Scientific Organizing Committee (SOC) as a consultant to the new president. G. G. Fazio was selected to serve as the new vice-president; this choice was approved earlier by the Executive Committee of the IAU.

2. Scientific Organizing Committee

The current membership of the SOC is as follows: B. F. Burke, G. W. Clark, G. G. Fazio, J. B. Hutchings, S. D. Jordan, Y. Kondo (Past President), K. A. Pounds, J. Rahe, B. D. Savage, G. B. Sholomitsky, R. A. Sunyaev, Y. Tanaka, J. Trümper (Vice President) and W. Wamsteker. There was an open discussion about the rotation of some members of the SOC, and various people made recommendations for replacements representing certain geographical areas or scientific disciplines. Drs. Clark, Kondo, Pounds, Rahe, Sholomitsky and Tanaka have already served for two terms, and thus are due for rotation off the committee. The final composition of the new SOC will be dependent on specific individuals agreeing to serve.

2. Status of Working Groups

At the previous business meeting of Commission 44 in Baltimore, two working groups were established. Their status and accomplishments are reviewed below.

2.1 MULTI-WAVELENGTH ASTROPHYSICS

Over the past three years, there have been several multi-wavelength observing campaigns organized under independent initiatives, but the working group itself has not undertaken any organized activity. Also, an interactive data base for the coordination of multi-wavelength observations, called MultiWaveLink, has been established for the general astronomical community at Pennsylvania State University. After a discussion that questioned the effectiveness of the working group and its lack of a clear mandate, a motion was offered and carried to terminate Commission 44's support of the working group.

2.2 LUNAR-BASED ASTRONOMY

There has been considerable interest in planning for future installations on the moon that could provide meaningful benefits to astronomy. NASA has sponsored studies that highlighted some observing concepts, and ESA has its own working group to study Lunar Science, including astronomy. Japan has plans for advancing to the moon, starting with a penetrator mission in 1996, and then progressing to more ambitious, manned missions thereafter. A chapter entitled *Astronomy from the Moon* appears in the report of the Astronomy and Astrophysics Survey Committee, chaired by J. Bahcall and sponsored by the US National Research Council.

The working group on Lunar Astronomy was proposed three years ago by H. Smith, and he agreed to serve as its chair. Unfortunately, a serious health problem prevented him pursuing his original intention of providing the needed leadership. There was a general consensus that there is still a good rationale for continued support of the Lunar Astronomy working group by Commission 44. A motion was proposed and adopted that a new attempt should be made to activate such a working group, and that it should include representatives from the US, the European community, and Japan.

2.3 NEW PROPOSALS

A proposal was made that Commission 44 form a working group on pollution in high earth orbit, but the motion failed to carry. Questions were raised about how the work of such a group would fit in with the efforts already underway elsewhere in the IAU (such as those discussed in the General Assembly). It was agreed that W. Wamsteker would pursue space pollution issues with other commissions, and Y. Kondo would also act as a liaison on this problem between our commission and COSPAR.

3. Program for the XXIst General Assembly

Commission 44 agreed to organize or sponsor the following special scientific sessions.

3.1 JOINT DISCUSSIONS

- a. An Overview of the Interstellar Medium (*SOC Chair*: B. G. Elmegreen; *other commissions involved*: 28, 34, 40, and 48)
- b. Hipparcos - an Assessment (*SOC Chair*: C. Turon; *other commissions involved*: 4, 19, 24, 31, and 40)
- c. Cosmic Background (*SOC Chair*: R. B. Partridge; *other commissions involved*: 40, 47 and 48)
- d. Results from ROSAT, GRO and other recent High Energy Astrophysical Missions (*SOC Chair*: J. Trümper; *one other commission involved*: 48)
- e. First Results from the Hubble Space Telescope (*SOC Chair*: C. A. Norman; *other commissions involved*: 16, 24, 28, 29, 33, 34, 47, and 48)

3.2 JOINT COMMISSION MEETINGS

- a. High Redshift Galaxies (*SOC Chair: K. Sato; other commissions involved: 28, 47, and 48*)
- b. Solar & Stellar Coronae (*SOC Chair: R. Pallavicini; other commissions involved: 10, 12, 36, and 49*)
- c. Atomic and Molecular Data for Space Astronomy: Needs & Availability (*SOC Chair: P. Smith ; other commissions involved: 10, 12, 14, 15, 16, 29, 34, 35, 36*)
- d. A Proposal for an International Antarctic Observatory (*SOC Chair: P. Gillingham; other commissions involved: 9, 40, 50*)

3.3 MEETING SPONSORED BY COMMISSION 44 ONLY

- a. Half day scientific session on "Results from Ultraviolet Instruments on Astro" (*SOC Chair: T. Gull*)

4. Future Symposia and Colloquia

The following events co-sponsored by Commission 44 have been approved by the Executive Committee of the IAU:

1. Symposium No. 150: The Astrochemistry of Cosmic Phenomena (*SOC Chair: A. Dalgarno; other commissions involved: 22, 33, 34, and 36*)
2. Symposium No. 151: Evolutionary Processes in Interacting Binary Stars (*SOC Chair: Y. Kondo; other commissions involved: 42 + others?*)
3. Colloquium No. 129: Structure and Emission Properties of Accretion Disks (*SOC Chairs: C. Bertout and S. Collin-Souffrin; other commissions involved: 27, 36, 42 and 48*)

5. New Proposals for Meetings

Commission 44 has agreed to support proposals to the Executive Committee for the following future meetings:

1. A colloquium entitled, "Particle Acceleration Phenomena in Astrophysical Plasmas" to be held in January 1993 at College Park, Maryland.
2. A colloquium entitled, "The Sun as a Variable Star" to be held in August 1993 in Boulder, Colorado.
3. A colloquium entitled, "Inside the Stars" to be held in April 1992 in Vienna, Austria.
4. A colloquium entitled, "Solar Coronal Structures" to be held in September 1993 in Tatranská Lomnica, Czechoslovakia.

6. Resolution on the Adoption of Vacuum Wavelengths for Space Astronomy Data

The large accumulation of spectroscopic data in the far and middle ultraviolet by IUE and HST now accentuates the transformation in the traditional way that wavelengths are expressed on either side of $\lambda = 2000\text{\AA}$. The current convention is that transitions above this boundary (up to the infrared) are expressed using wavelengths in air at standard conditions, while those below are expressed with vacuum wavelengths. So that space and ground based astronomy enterprises could operate with a uniform system, Commission 44 was asked to consider the merits of recommending an elimination this difference — one that otherwise seemed so natural in laboratory spectroscopic contexts. An important incentive for working with vacuum wavelengths above 2000\AA is the eradication of an awkward discontinuity in the wavelength scales of spectra that cross the boundary. The Commission also recognizes that a vacuum scale in the visible simplifies the derivation of accurate transition wavelengths from energy level differences and also makes the identification of redshifts for far-uv lines shifted into the visible more straightforward. Offsetting these advantages is the confusion created by any change in convention, that is, when the substitution of new wavelengths for certain lines clash with the more familiar identifications and older tabulations. This problem should be ameliorated by the current trend toward computer databases that permit one to convert between the two systems, and, for data appearing in publications, the growing practice of having both vacuum and air wavelengths appear in the tabulations.

On the basis of the above arguments and some informal consultations with members of Commission 14, Commission 44 submitted a resolution that endorses the adoption of vacuum wavelengths across the entire spectrum and also urges publications to identify clearly which convention is being used during the transition period. The text of the resolution appears elsewhere in this volume.

7. World Astronomy Days

A motion was proposed and passed that Commission 44 will support the activities associated with World Astronomy Days.