COMMISSION 10 : SOLAR ACTIVITY (ACTIVITE SOLAIRE)

Report of Business Meeting

PRESIDENT : E. Tandberg-Hanssen SECRETARY : R. Howard

A business meeting was held on November 20. E. Tandberg-Hanssen opened the meeting with a few introductory remarks about the present level of solar activity, research activity of the members, and new applications for membership. He then introduced the new secretary, S.R. Kane, and proposed the following persons for the positions of Commission President and Vice-President for 1985-89 :

President : M. Pick (France)

Vice President : E. Priest (Scotland/U.K.)
The members approved by applause.

Next, the following members were proposed and approved for the Organizing Committee : C. Alissandrakis (Greece), R. Falciani (Italy), T. Hirayama (Japan), S.R. Kane (U.S.A.), V. Krishan (India), G.V. Kuklin (U.S.S.R.),M. Machado (Argentina), B.Valnicek (Czechoslovakia), Z.D. Zhang (China). Because Machado is not a U.A.I. Member, the name of P. Kaufman (Brazil) has been proposed after the General Assembly .

Reports of standing committees (FAGS, IUWDS, QSBA, SIDC and SCOSTEP) were then presented. Except SCOSTEP, standing committee representatives will continue in their present positions for the next 4 years. The new representative for SCOSTEP will be F. Wu (USA).

Special reports on the Max '91 Study Plan and the Status of Solar-Terrestrial Monitoring Programs were presented by S. Jordan and H. Coffey, respectively. Other planned observations in the U.S.S.R., Europe and the U.S.A. for the 1991 solar maximum were also presented.

The importance of ground-based observations was stressed by J.C. Pecker. It was supported by M. Kundu, R.W. Noyes and M. Pick. A resolution has been formulated to express this need for solar activity observations.

Changes in the heliographic Coordinate system were proposed by Commission 4 (Ephemerides). The members did not agree with these changes and approved the following resolution :

Considering the importance of the Carrington reference system for statistical studies of solar phenomena from long time-series observations, and the importance of continuity between more than 100 years of past solar data and future data of similar type; and
Considering the difficulty at the present time to significantly improve the determination of the position of the solar axis;
Commision 10 recommends that the Carrington reference system continue to be generally used.

Future Colloquia on the Contribution of Amateur Astronomers to the Discovery of the Universe and on Solar Prominences were endorsed by the membership. Also, the suggestion that some of the solar activity data in Solar Geophysical Data be made available on a magnetic tape (instead of the "yellow book") was supported by the following resolution :

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Considering the amount of solar data processed by the QBSA (Quarterly Bulletin of Solar Activity), and

Considering the cost and bulkniness of providing hard copies of all data versus the increasing use of magnetic tape storage,

Commission 10 recommends that judicious choises be made in order to reduce the use of hardcopying and promote the use of magnetic tapes in data handling for QBSA.

SCIENTIFIC SESSIONS

1. Magnetic Reconnection in Astrophysical Plasmas (E.R. Priest), November 21

Joint Commission (10, 12) Meeting (half-day)
Programme : 5 invited talks.
T.G. Forbes (Durham, U.S.A.) : Numerical Reconnection Experiments
R.S. Steinolfson (Texas, U.S.A.) : Tearing Mode Instability
Y. Uchida (Tokyo, Japan) : Reconnection and Stellar Activity
A.O. Benz (Zurich, Switzerland) : Reconnection in Solar Flares
M. Dubois (Fontenay, France) : Reconnection In Laboratory Machines

2. Coronal Activity and Interplanetary Disturbances

Joint Commission (10, 12, 49) Meeting, (M.R. Kundu) November 26 (half-day).

Altogether 10 papers were presented at this meeting. Coronal activity at radio wavelengths was discussed by M.R. Kundu and P. Lantos. Kundu used Clark-Lake 2-dimensional radioheliograph pictures (obtained with time resolution of 0.6 sec - 1 min) in the frequency range 15-25 MHz to discuss large scale structures of the upper corona, synoptic charts at 50 MHz, their comparison with white light synoptic charts and He 10830 A spectroheliograms and microbursts at meter-decameter wavelengths. Lantos used Nançay 169 MHz two dimensional synthesis maps to discuss their relationships with white light synoptic charts and coronal holes as well as Clark Lake low frequency maps obtained at nearly the same time. M. Pick discussed the multifrequency use of the Nançay radioheliograph. R.C. Stone discussed kilometer wavelength radiobursts and their use in remote sensing of the interplanetary medium. In particular, Stone discussed three dimensional trajectories, type III bursts and the three dimensional large scale magnetic field structures along which type III electron streams propagate, and the properties of interplanetary shock structure derived from type II bursts. E. Antonucci discussed the coronal response to the energy relased in flares, using the Solar Maximum Mission (SMM) soft X-ray spectroscopic data. She emphasized the role of the onset of turbulence a few minutes prior to the flare onset. B.C. Low reviewed the properties of coronal transient phenomena, as observed with the SMM coronograph polarimeter (C/P) experiment and reviewed several models to interpret these phenomena. A. Hewish, using the radio scintillation observations of a grid of 3000 sources per day, discussed the properties of heliospheric disturbances and traced their sources to high speed solar wind streams originating from coronal holes. In particular, Hewish emphasized that the role of flares in producing such disturbances was minimal or purely by chance coincidence. Y. Smolkov described the Sibizmir (Siberian) Solar Radio Telescope and discussed some observations of the slowly varying component at 3cm wavelength. X. Liu discussed the role of sheared coronal magnetic field in the production of flares and R. Shelke discussed differential rotation of coronal holes.

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