10. COMMISSION DE L'ACTIVITE SOLAIRE

Report of Meetings

PRESIDENT: A. B. Severny.

SECRETARY: M. A. Ellison.

Business meeting, 21 August 1961

The President began by referring to the death of Professor A. K. Das and the loss of two members of the Commission by resignation—Dr Mary T. Brück and Dr M. Notuki.

The *Draft Report* was accepted without changes (at the meeting on 16 August).

Dr Fokker presented a report, prepared by himself and Dr Smerd, dealing with the publication of world-wide data of solar radio emission in the *Quarterly Bulletin on Solar Activity*. This report having been discussed and adopted, the following were appointed members of a Steering Committee to advise the new Editor of radio-emission data (Dr Fokker): H. Daene, H. Dodson-Prince, A. Maxwell, M. Pick-Gutman, S. F. Smerd, H. Tanaka, V. S. Troitsky and J. P. Wild. The Secretary emphasised the need for swept-frequency recording in the European zone. Professor Kiepenheuer informed the meeting that suitable equipment, formerly in use at the Fraunhofer Institute, was likely to be brought into operation again shortly by Professor Siedentopf.

Professor Waldmeier reported briefly on the history, present status and administrative control of the *Quarterly Bulletin on Solar Activity*. After a short discussion the Commission resolved that in future the members of the new Inter-union Commission on Solar and Terrestrial Relations should act in the capacity of advisors to the Editor of the *Quarterly Bulletin*.

Dr Roberts read the resolutions passed by Commission 10*a* (see below) in relation to the Hα disk patrol and these were endorsed by the Commission. Professor Kiepenheuer asked that observing stations be given adequate notice of the programme proposed for the International Year of the Quiet Sun (I.Q.S.Y.).

The Commission supported proposals for the rapid publication of sunspot magnetic field data and Professor Kiepenheuer agreed to investigate the possibility of publishing these in an addendum to the Fraunhofer *Daily Maps* which would show the polarities and field strengths in the principal spot groups.

The Commission expressed its satisfaction at the arrangements which had been made for the continued publication of the Fraunhofer *Daily Maps of the Sun* and the Russian *Solar Data*.

Following a discussion on the need for improvements in the estimation of flare importance the following resolution was adopted:

"That a Working Group be appointed to consider all problems concerned with the estimation of flare importance and to make recommendations which could be put into operation from 1 January 1965".

Members of the Working Group were appointed as follows: M. C. Ballario, A. Bruzek, H. Dodson-Prince (Chairman), E. E. Dubov, M. A. Ellison, R. Hedeman, J. V. Lincoln, R. Michard, Y. Öhman, H. J. Smith and C. Warwick. The Group was empowered to take

earlier action if it found that discrepancies were arising between the estimations of different stations through the use of incorrect units or methods of measurement.

The Secretary, in his capacity as Reporter for Solar Activity on the International Committee for Geophysics, gave a short account of the Committee's plans for observations to be made during the International Year of the Quiet Sun—1964–65 (I.Q.S.Y.). He invited the Commission to appoint a small Steering Group to assist him in the planning stages. This was agreed and the following were invited to act: R. G. Athay, A. D. Fokker, H. Friedman, K. O. Kiepenheuer, R. Michard, M. Nicolet and A. B. Severny.

Dr Shapley described the organizations now in operation for the publication of solar data and for the quick exchange of information about outstanding events. In this connection Dr Michard proposed the following resolution which was endorsed by the Commission:

"The Commission, considering the wish expressed by the Comité International de Géophysique and other organisations for world-wide co-operation in geophysics, urges all observers active in the solar patrol to report promptly to the nearest Regional Warning Centre, by telegram or other available fast channel, all flare events of importance 1 + and greater during the coming years of declining solar activity and especially during I.Q.S.Y.".

The Commission resolved to recommend that the annual subvention of 2 700 gold francs, agreed since 1925 by the Union for the publication of the *Cartes synoptiques de la chromosphère solaire*, should be renewed to the Meudon Observatory until the next General Assembly. The Commission also agreed to recommend the annual subvention of 1 000 gold francs to Professor M. Waldmeier for the publication of the *Heliographische Karten der Photosphäre.*

[Both these recommendations were approved, and were incorporated in the report of the Finance Committee.]

The Commission took note that the following members had been appointed to conduct its affairs over the next three-year period: President: A. B. Severny; Vice-President: M. A. Ellison; Organizing Committee: K. O. Kiepenheuer, R. Michard, W. O. Roberts, Zd. Svestka, and M. Waldmeier.

Report of Meeting, 16 August 1961

The following communications were read at the meeting. Nos. 1 and 2 dealt with new observational techniques and 3 to 5 with recent research items unpublished.

1. *R. B. Leighton.* Spectro-heliographic records of magnetic fields and radial velocities on the disk.

2. *A. Dollfus.* The solar photo-electric polarimeter.

3. *R. W. Kreplin.* X-ray and Lα observations of solar flares with satellites.

4. *H. Friedman.* A new X-ray photograph of the Sun.

5. *M. A. Ellison.* The flare nimbus and changes in the Hα striation patterns.

Report of Meeting, 19 August 1961

The following accounts were given of recent research projects, mostly unpublished.

1. *R. G. Athay and G. E. Moreton.* The rapid evolution of flares and the abrupt disappearance of filaments after the explosive phase. (Presented by R. G. Athay).

2. *R. R. McMath, H. Dodson-Prince and O. Mohler.* The examination of bombs (mustaches). (Presented by *H. Dodson-Prince*).

3. *R. E. Loughhead.* The rapid changes in sunspots.

4. *H. Zirin.* The spectrum of the flare of 1960 November 14.

5. *M. C. Ballario.* On the classification of solar flares. (Presented by *G. Righini*).

6. *S. Lukyanov, A. B. Severny, A. Babin, G. Sidorov, N. Steshenko* and *V. Sinitzin.* The comparison of line profiles in flares and in laboratory pinch. (Presented by *A. B. Severny*).

7. *M. R. Kundu.* Correspondence between X-ray emission producing SIDs and 2800 Mc/s bursts.

8. *J. C. Noyes.* The characteristics of solar active regions associated with flares producing low-energy solar protons.

10*a*. SOUS-COMMISSION DE CINEMATOGRAPHIE DES PHENOMENES SOLAIRES

Report of Meeting, 17 August 1961

PRESIDENT: W. O. Roberts.

SECRETARY: M. N. Gnevyshev.

The meeting was opened by the President, who called attention to the fact that this was the last meeting, *per se*, of the Sub-Commission for Cinematography of Solar Phenomena, presided over for so many years by Dr Lyot. He pointed out that the work of the Sub-Commission, under the IAU reorganization, will be carried on by a Working Committee, or otherwise as the parent Commission 10 may decide. The President also paid tribute to Dr McMath for his pioneering work in solar cinematography.

CONTINUOUS MOTION PICTURE OF DISK ACTIVITY

The President recalled the long-standing goal of the Sub-Commission, to assist the preparation of a continuous, unbroken film of solar disk Hα activity on a 24-hour per day basis for an extended period. He then called on Dr H. Smith to report on work of the Special Working Committee entrusted with this task. Dr Smith reported on work subsequent to the formal report previously submitted. The Working Committee had elected the period 6–20 July 1959 for a trial movie, as one of the great periods of activity in Solar Cycle 19. Twelve observatories in eight countries have contributed films to the combined effort. There are numerous small-time gaps, usually of the order of one hour, but coverage is approximately 90% complete. Final editing is in progress at Sacramento Peak Observatory. Numerous disparities of image size, orientation, density and contrast must yet be removed, and a uniformly advancing clock must be superimposed on the images. These difficulties are, however, being surmounted, and approximately 20 000 individually adjusted frames of film are being completed. The final prints are expected to be ready to distribute in mid-1962. The master negative will be stored in the IGY Data Center A, and duplicate copies will be available there. The quality of the final prints will not equal the original films, of course, because of the need for multiple copying and for other photographic manipulations.

Dr Smith emphasized the degree to which future efforts of this sort would be enhanced by uniform standards of size, orientation, registration, density and contrast. Dr Michard also appealed for establishment of uniform standards for these characteristics. The President expressed thanks to the Working Committee for its excellent progress. The report of Dr Smith was accepted by the meeting.