

Dr Lundmark reported on the determination of effective wave-lengths for extra-galactic nebulae.

Dr Schilt reported on some researches which had given indications of systematic errors in Parkhurst's colour-indices in the Selected Areas of the same kind as those found by Professor Vanderlinden.

Professor Shapley communicated the results of a comparison between Malmquist's colour determinations for stars at the galactic pole and the spectral types determined by Miss Cannon.

Professor Öpik drew attention to the importance of determinations of colour for bright red stars.

Professor Vanderlinden read a letter from MM. Grouiller and de Roy recommending a resolution to be made by the Commission concerning the need of a determination of visual sequences of comparison stars for stars in Nijland's List I. The Commission resolved to adopt the resolution.

It was resolved to include the communications referred to above in the Report.

A few slight changes on p. 153 of the Report concerning references to works by Hertzsprung and by Lindblad were made.

Professor Sampson expressed his regret that so little attention had been paid in the Report to the importance of determinations of stellar temperatures by spectrophotometric work.

Professor Shapley replied that in future stellar spectrophotometry was probably to be referred to the activities of Commission 29, which had under consideration to change its name in order to be able to include spectral analysis in general.

#### Commission 26. (ÉTOILES DOUBLES.)

In the absence of the President of the Commission E. Hertzsprung, acting as Chairman, opened the meeting, July 6, with G. van Biesbroeck as Secretary.

Twenty-five members and guests were present. They were asked to sign their name on a message of greeting sent to the President and also on one to Mr van den Bos at Johannesburg.

The report of the President was read and a number of minor amendments to the text were adopted. The importance of the function of the central bureau was brought out in the course of the discussion. It had been suggested to consider Johannesburg as a centre of information for double stars in the southern hemisphere in the same way as the Lick Observatory had already been for some time in the northern hemisphere. The Commission also approved the request of W. van den Bos that henceforth computers should publish at the same time with the ecliptic elements the constants in the new form that had been worked out at Johannesburg, through which the co-ordinates and radial velocities could be computed very quickly.

Copies of a *Catalogue of Orbits* so far computed that had been prepared by Dr Luplau-Janssen were distributed.

Mr Fatou was proposed for co-option in the Commission.

#### Commission 27. (ÉTOILES VARIABLES.)

Dr Harlow Shapley presided, assisted by Professor A. A. Nijland, Vice-President. Mr Felix de Roy was appointed Secretary and French interpreter; Dr A. Kohlschütter kindly undertook to act as German interpreter.

The Report (p. 159) was discussed and approved with some additions and changes.

The following resolutions were referred to the General Assembly:

(1) That the Union places 150 dollars at the disposal of Professor Nijland for the publication of the Commission's lists of special variable stars in the *Bulletin of the Astronomical Institutes of the Netherlands*.

(2) That the sum of £76 be voted to the British Astronomical Association, for printing 43,590 observations in the years 1920–24, towards which £390 has already been subscribed.

(3) That the grant of a yearly subsidy of 3000 French francs to the Director of the Cracow Observatory should be made, to enable him to continue the publication of the ephemeris of eclipsing binaries until the next meeting of the Union.

(4) That in the opinion of this Commission, it is unnecessary at this time to try to modify the existing nomenclature of classes of variable stars.

(5) That the Commission approves of a system of fixing the boundaries of constellations based upon arcs of hour circles and parallels of declination, and that in any mathematical definition of these boundaries, the Union should co-operate with the Committee of the Astronomische Gesellschaft charged with the naming of variable stars.

(6) That the Commission approves of an atlas published under the auspices of the Union showing the new boundaries of constellations.

In addition, the following proposal was adopted:

(7) That in order to advance the co-operative study of the variations of Cepheid variable stars, a small Sub-Committee be appointed by the Chairman of the International Commission on Variable Stars to arrange for the observation and discussion of a short list of Cepheid variables (Shapley and Stewart).

In compliance with this proposal, the President of the Commission asked Professor Mascart (Lyons) to preside over this Sub-Committee on Cepheids, and asked Mr Leon Campbell (Harvard) to act temporarily as its Secretary.

It was arranged also that the co-operation in observing variables in List I (now List A) shall be continued on the lines set down in 1925. Professor Nijland kindly agreed to preside over a small Sub-Committee formed of members of the Commission, which will collect and distribute charts and sequences for several of the stars on the list.

Professor Ludendorff emphasized the urgency of observing as many long-period variables as possible.

Mr de Roy, at the request of Commission 22, directed the attention of variable star observers to the importance of recording every telescopic meteor during their work, were it only the time of its appearance and its magnitude.

The Commission insisted that compilers of ephemerides of variable stars should adhere strictly to the Julian Date commencing at Greenwich midday, which should also be uniformly used in all elements of variable stars.