

the reversing layer. In the Mt Wilson measures this result was shown not only by measures in different regions of the spectrum but also in comparing high and low level lines on the same plates.

Mr Evershed referred to his recent measures of the H and K lines in prominences. The general result from spectra obtained during the first half of 1928 confirmed previous measures in giving a considerably greater angular speed in the prominence region than was found in the reversing layer.

The provisional values now obtained gave the following daily angular speed of rotation, ξ , at a mean height of 30'' above the photosphere:

Latitude	ξ
0°-20°	mean, 14°
21°-57°	mean, 30°
	17°·1
	18°·5

These figures were of the same order as those obtained in 1926/1927. There was greater variation from plate to plate in the lower latitudes, which included the sunspot zones, than in the higher latitudes, but not much weight could be given to the apparent increase of angular speed in the higher latitudes here shown.

With reference to the variation of rotation with latitude, or with the sunspot period, Mr Evershed emphasized the importance of using lines representing low levels in the sun where the most consistent results were obtained, and especially selecting lines of *Ca* and *Fe* in the red, which were particularly suitable for accurate measurement.

Dr St John referred to the lines of the rare earth elements which represent the very lowest levels in the reversing layer. These lines, although appearing in arc spectra, were all enhanced lines. It was proposed to use them at Mt Wilson in rotation work.

Commission 16. (PLANÈTES, COMÈTES ET SATELLITES.)

The Commission met three times to discuss the Draft Report. Dr Luplau-Janssen acted as Secretary. Considerable additions were made to the report with special reference to some of the more recent applications of physical methods of research.

These include the following additional section:

IV. COMETS.

Radiometric measurements of Skjellerup's Comet (Dec. 1927) made at the Lowell Observatory on Dec. 16, 17, 18 and 19, showed a striking progressive decrease in the values of the "water cell transmission" (3μ to 14μ) indicating a large increase in the percentage of the infra-red energy. Simultaneously with these changes in the infra-red of the energy spectrum occurred marked developments (intense sodium emissions) in the optical spectrum as photographed with the spectrograph.

A preliminary report of these observations was presented at the 1927 (Dec.) meeting of the American Astronomical Society and an abstract was published in the report of the meeting.

M. F. Baldet has made observations of comets with the 0^m·83 telescope of the Meudon Observatory and he has found that the nuclei are extremely small. The nucleus of the Comet Pons-Winnecke (1927 c) had a diameter of 400 metres (*L' Astronomie*, 1927).

The Laboratory researches and observations with an objective prism have

permitted M. Baldet to make a general research on the constitution of comets (*Annales de l'Observatoire de Meudon*, t. VII, 1926).

M. Baldet recommends:

1. That observers having the use of great telescopes should pay attention to the stellar nuclei of the comets and endeavour to determine their dimensions by photometric methods.

2. That the particular spectrum, hitherto unidentified, of the light of the gases immediately enveloping the stellar nuclei of the comets should be studied with the greatest possible dispersion in order to obtain the exact wave-lengths; further that laboratory work should be undertaken in order to determine its origin.

The Commission adopted for submission to the General Assembly a resolution recommending further research, particularly by low-temperature laboratory investigations, on the origin of the absorption bands in the spectra of the exterior planets; it was also agreed that the Commission should compile a list of the names employed or proposed for the markings on Mars.

Commission 17. (NOMENCLATURE LUNAIRE.)

Professor Turner (in the chair) proposed that Dr E. W. Brown be nominated as Chairman of the next Commission, and suggested that the Committee be expanded.

The Report of the Committee was received and adopted.

A bill of £8 12s. 6d. was presented for the photographic reproduction of the portions of the lunar map drawn by Miss Blagg, and the following resolution was adopted:

“That the sum of £28 12s. 6d. be asked for to provide photographic copies of the lunar maps drawn by Mr Wesley and completed by Miss Blagg, and such other documents as may be useful to the Committee.”

Consideration was given to decisions to be taken with regard to nomenclature, with special reference to Miss Blagg's “Collated List”.

Letters were read from Dr Müller and Mr Lamèch, proposing a new name on the lunar map. The President was asked to reply, deprecating this introduction.

Commission 18. (LONGITUDES.)

Deux séances ont été tenues par la Commission les 7 et 9 juillet 1928.

Séance du 7 juillet:

Est adoptée la proposition de M. le Général Ferrié, Président, de nommer M. A. Lambert, de l'Observatoire de Paris, secrétaire de la Commission.

M. le Président résume l'ensemble des travaux effectués en octobre-novembre 1926 et signale la précision des résultats. Les contrôles de fermeture relatifs aux polygones fondamentaux discutés en Amérique, en Angleterre et en France se traduisent par des écarts inférieurs à 0^o.01.

Rév. E. C. Phillips, S.J., fait connaître la valeur provisoirement adoptée pour la longitude de “Georgetown College Observatory”, une correction de 0^o.01 au plus pouvant y être apportée ultérieurement.

Le Professeur F. Nušl annonce que la publication des résultats obtenus à l'Observatoire de Prague se fera prochainement. Une étude spéciale de l'équation personnelle des observateurs a révélé qu'elle est stable avec le micromètre impersonnel.