

that all the letters *c* on pp. 89, 90 of Table I in the Draft Report should be changed to *b*; namely for $\lambda\lambda$

4407.714	4442.343	4494.568
4408.419	4447.722	4528.619
4430.618	4459.121	4630.126

Group *c* will thus be eliminated from the Report.

It was suggested that the wave-lengths measured in the ultra-violet by Buisson and Fabry (*Journ. de Physique*, 7, 389, 1908) and by Burns (*Bull. Bur. of Stand.* 12, 179, 1915) be quoted for comparison with the computed values in Table II, which are based upon term values derived from Table I. These are as follows:

Buisson and Fabry:

2874.176	3075.725
2941.347	3125.661

Burns:

2941.348	3116.638	3184.900
3075.726	3125.665	3199.527
3083.747	3129.340	3236.227
3091.582	3134.115	

Dr Mecke gave an account of recent spectroscopic work at the Bonn Laboratory; it includes the determination of standards in the arc spectra of iron, nickel and copper, wave-length measurements in the spectra of iodine, germanium, argon, and the secondary spectrum of hydrogen, and experiments to establish the wave-length of the $K\alpha$ line of the Röntgen spectrum of copper relative to the primary standard in the cadmium spectrum.

At the suggestion of Professor Fabry, recommendation No. 3 was amended by adding the words "and in the ultra-violet below λ 2800".

Recommendations Nos. 4, 5 and 6 were adopted without change, while recommendation No. 7 was adopted with the substitution of "to longer and shorter wave-lengths" for "in both directions".

Commission 15. (ROTATION SOLAIRE.)

Dr St John stated that the rotation results obtained at Mt Wilson since those of Adams and Plaskett showed a continuous decrease, but the most recent results from spectra obtained under exceptionally good conditions this spring indicated a slight increase, the value of the sidereal rotation at the equator being now 1.94 km./sec.

Father Rodés then gave an exposition of a research in which he obtained a value of the sun's diameter by taking the mean equatorial velocity derived from spectroscopic observations for the 25 years 1889-1913, and combining this with the observed mean rotation period of 24.852 days from observations of spots, faculae, flocculi, and $H\alpha$ filaments. In this way from the mean spectroscopic velocity of 2.0358 km./sec. a value of the solar diameter was obtained in close agreement with the adopted value from trigonometric methods, and his conclusion therefore was that the above value of the velocity must represent the true equatorial velocity.

Coming to the question of the change of speed with solar level, Dr St John referred with satisfaction to the agreement between the Mt Wilson results and those of Evershed, which showed an increased angular speed at higher levels in

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