

## ANNUAL REPORT OF THE TRANSVAAL OBSERVATORY

1911

*Director Mr. R.T.A. Innes*

**9-inch Refractor** (Mr. R.T.A. Innes) - A programme of double-star measurement was commenced in 1911: 596 pairs were measured satisfactorily on two or more evenings, and 8 new pairs were incidentally discovered. The results will appear in the Observatory Circular No.15. 220 of these pairs were under 2" apart and 111 under 1".

The phenomena of Jupiter's four bright satellites were assiduously observed, and the results have appeared in Circular No.12. The observations show that the time has come when more detailed predictions of the phenomena should be given: thus for J III and J IV, the times of commencement and end of each occurrence are wanted; the partial eclipses of IV and the partial transits and occultations of both III and IV should be indicated; thus the Ec.D. of III on 1911 April 29 occupied 19 minutes from first contact with shadow to extinction, whilst there is nothing in either Damoiseau's or Sampson's tables to indicate that the transit of III on 1911 April 4 would only be partial.

Comet 1911 (c) Brooks was observed for position on six occasions.

**Franklin-Adams Star Camera** (Mr. H.E. Wood). - The task of completing the charts for the southern hemisphere has been continued on every available occasion but there are still a considerable number to be taken.

In answer to an appeal to the southern observatories to obtain photographs of the eighth satellite of Jupiter whilst Jupiter is in the southern hemisphere, a few plates were exposed here and measureable images were secured on two nights. As a by-product, images of many minor planets, some of which were new, were found and measured. Some of the results obtained have been published in Circulars Nos. 8, 9, and 10. A few variable stars and nebulae were also brought to notice. The minor planets Hector (624) and 1911 MT were specially searched for; measurable images of Hector were secured on two nights (see A.N., No. 4522), and a new planet 1911 MU was found near the place of 1911 NT, but so far NT itself has not been recognised. The places of the following comets were determined photographically: -

1911 b Kiess on twenty nights, Encke's on eleven nights.

**Latitude-Telescope** (2  $\frac{5}{8}$ -inch) (Mr. W.N. Worsell) - This has been in constant use throughout the year. Late in 1911 some alterations were made to it on the

recommendation of Dr. Albrecht; it is now possible to rotate the telescope 180° without lifting it from its V's.

Circulars Nos. 6 to 12 were distributed in 1911. Meteorological and seismological observations and the time service were continued on the usual lines.

To provide for the easier examination and more accurate measurements of plates, a stereo-comparator has been ordered from Messrs. Zeiss. The tower, roof and moving floor are nearly ready for the 26-inch refractor, and the mechanical parts of the telescope are well advanced, but all attempts to cast crown and flint discs of sufficient size for the lenses of the object-glass have so far been unsuccessful.