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ANNUAL REPORT OF THE UNION OBSERVATORY

JOHANNESBURG

1960

(Director, Dr W.S. Finsen, Union Astronomer)

STAFF

Dr W.H. van den Bos was a guest astronomer throughout the year, with the assistance of a Research Grant from the South African Council for Scientific and Industrial Research. Mr 0. P. Lategan was appointed Assistant Professional Officer on 2nd May and resigned on December 31. Three professional posts were vacant at the end of the year.

The following assisted as demonstrators on public nights and in other ways, and their help is gratefully acknowledged: Messrs. H. C. Lagerweij, W. Bell, J. H. Botham, J. Vollmer, P. C. Seligmann, M.D. Overbeek , I. R. H. Brickett, A. Johnston.

ASTRONOMICAL RESEARCH

With the 26½-inch refractor 2602 micrometer measures of double stars were obtained. The principal observers were van den Bos (2128 measures in 235 hours on 94 nights), Knipe (233 measures in 48 hours on 24 nights) and Lategan (236 measures in 68 hours on 33 nights). The telescope was also used by Finsen with his eyepiece interferometer for 540 hours on 276 nights for the measurement of known pairs and the search for new pairs, which is now being extended to magnitude 7.5 for stars with annual proper motions exceeding 0".05 in right ascension or declination.

The Franklin Adams Telescope at Hartbeespoort was used by Bruwer and Mr J. Ponsen of the Leiden Southern Station. Bruwer obtained 168 plates on 20 nights, mainly of minor planet and comet fields, resulting in 143 minor planet and comet positions. Mr Ponsen obtained 338 plates of variable star fields.

The 9-inch refractor was used by Knipe on 70 nights for photoelectric photometry, mainly of eclipsing variables, and 3622 readings were obtained. With the 9-inch and 6/7-inch refractors 16 occultations were observed by Knipe, Smuts and Sherry; predictions for the fainter stars were again supplied by Lagerweij. These telescopes were also used by Botham for physical observations of Jupiter and Saturn (he was apparently the first to note the development of a new white spot on Saturn). The transit of Mercury of November 7 was observed by Bruwer and Finsen with the 6/7-inch.

TIME SERVICE

Further progress was made with the design and construction of transistor frequency dividers and inverters with the object of making the time installation independent of the mains power supply and also for use in portable crystal clocks. To test these units Hers built a new five-decade electronic timer.

PUBLICATIONS

Union Observatory Circular No. 119 and twelve Time Service bulletins were issued during the year. The following papers appeared in other journals:

W.H. van den Bos: Note on Orbital Elements of Double Stars. ***A.J***. **64**, 42
The Orbit of Sirius, ADS 5423. ***Journal des Observateurs,*** **43,**145.
The Orbit of AC5, ADS 7555. ***Journal des Observateurs,*** **43**, 152.

J.H. Botham: Observations of a White Spot on Saturn. ***MNASSA.***, **19**, 59.

W.S. Finsen: New Double Stars (XIV-XVI). ***MNASSA***, **19**, 28, 76 and 97.