

Rousdon Observatory, Devon (Mr. Peek's).

Observations of long-period variable stars have been regularly made during the past year with the $6\frac{4}{10}$ -inch equatorial telescope, 163 nights having been available for this purpose. The complete light curve has as far as possible been observed in each case. A sidereal clock by Sir Howard Grubb has been erected in the transit room.

The Earl of Rosse's Observatory, Birr Castle.

During the past year the work of the Observatory, Birr Castle, has been in the direction of the preparation of past observations for publication rather than in undertaking new investigations at the telescope. The total eclipse of the Moon on January 28, 1888, was, however, observed for radiant heat under exceptionally favourable circumstances, and the results, which were published shortly in *Nature*, February 2, 1888, and are now nearly ready for the press in their extended and fully reduced form, go to confirm those of October 4, 1884.

A detailed sketch of the Milky Way has been completed by Dr. Boeddicker, and only waits to be copied for the lithographer.

A long series of sketches of the planet Jupiter are nearly ready for issue with the *Transactions* of the Royal Dublin Society.

Some attempts at photography have been made, and it is hoped that in a short time it may be possible to adapt the instruments so as more nearly to meet the requirements of this new branch of work.

Meteorological observations continue to be made for the Government office as heretofore.

*Sir Henry Thompson's Observatory, Hurstside,
West Molesey, Surrey.*

The dome and equatorial of this Observatory were constructed by Messrs. Cooke in 1887, but, owing to difficulties in obtaining a good flint lens, and to difficulties of mounting, the instrument was not ready for regular use until May 1888.

The objective of the equatorial is of 12 inches clear aperture, the focal length being 15 feet 3 inches. The dome, 30 feet diameter, has a framework of iron, and is covered with waterproof papier-mâché, the shutter being of Cooke's well-known pattern, allowing a wide opening near the zenith.

The Observatory being intended mainly for spectroscopic observations, Mr. Hilger was instructed to make a solar spectro-scope with a 2-inch Rowland grating (14,438 lines to the inch).

The collimator and observing telescope of the spectroscope he constructed have achromatic objectives 2 inches diameter and 15 inches focal length, the whole being mounted in a convenient and effective manner, combining great rigidity with extreme lightness, 19 lbs. being the total weight. The micrometer of the spectroscope has powers of 50, 25, and 10, and is capable of measuring positions accurately to $\frac{1}{10000}$ of an inch.

Mr. Hilger also made a star spectroscope, which has been found very effective for observations of faint stars and of nebulae.

Systematic observations of Sun spots and the widened lines in their spectra, and of the forms, sizes, positions, and frequencies of prominences, were commenced in May, and continued to the end of the year.

With the star spectroscope the bright lines in γ *Cassiopeiae*, β *Lyrae*, P *Cygni*, R *Cygni*, and *Mira Ceti* were frequently examined and measured, and it is hoped that the results of these observations will be communicated to the Society at an early date. The spectra of the Great Nebulae in *Orion* and *Andromeda*, and of the Ring Nebula in *Lyra*, were also examined: the results were recently communicated to the Society.

Comet Barnard (September 2, 1888) was observed on five occasions, spectroscopic observations being possible on three of these, viz. November 8, 13, and 27, 1888, the spectrum on each occasion showing three *excessively* faint bands and a rather bright continuous spectrum, the positions of the bands being 5640, 5169, 4742.

A room attached to the Observatory has been fitted as a spectroscopic laboratory, and another as a photographic dark-room.

Colonel Tomline's Observatory, Orwell Park.

The past year has not been favourable for the ordinary work of this Observatory. Only three months have had more than an average amount of clear weather, while the remainder fell generally much below it. Thus, although every opportunity was taken to observe Olbers' Comet from the beginning of the year up to March 21, when the watch was abandoned, only three observations could be secured. The results of the observations of the several comets of the year may be summarised in tabular form as follows:—

Comet.	No. of evenings on which observations were taken.	Limits of date within which observations were made.
Olbers' V. 1887	3	From Jan. 8 to Feb. 10
(concluding part of a series of 24 observations).		
Sawerthal I. 1888	24	From Apr. 3 to Aug. 10
Brooks III. 1888	13	„ Aug. 29 „ Oct. 8
Barnard e 1888	31	„ Sept. 11 „ Dec. 31
Barnard f 1888	7	„ Nov. 13 „ Dec. 30