

Our Astronomical Column.

NEW OBSERVATIONS OF JUPITER.—Mr. W. F. Denning informs us that Mr. Frank Sargent, of the University Observatory, Durham, observed Jupiter on the morning of December 24, and saw the hollow in which the great red spot is situated central at 19h. 13m. G.M.T., which corresponds to a longitude of 239°.6. Mr. Sargent considered this hollow in the great southern belt decidedly more shallow than formerly. The great red spot appeared to be shorter than at the last opposition, its length being estimated as only 22 degrees.

Following closely behind was the preceding end of the south tropical disturbance which made its transit at 20h. G.M.T. in longitude 268°. The rotation periods of these two objects during the last six months were:

Red Spot Hollow = 9h. 55m. 38s.1.  
S. Tropical Disturbance = 9h. 55m. 29s.8.

These periods correspond very nearly with those derived during the earlier part of the year 1922.

BAADE'S COMET.—This comet was observed by Dr. W. H. Steavenson on December 20 and 22. He describes it as follows: "Magnitude 9 to 10, small, compact; diameter about 1'; best defined in position angle 165°, rather diffuse towards 345°; there was central condensation, but no well-defined nucleus."

The brightness is only falling off slowly, and the comet is still within reach of moderate instruments. The following ephemeris, by Mr. Johannsen, of Copenhagen, is very accurate. It is for Greenwich midnight:

		R.A.		N. Decl.
		h.	m. s.	
Jan.	5.	22	55 22	19° 16'
"	9.	23	4 30	18 46
"	13.	23	13 30	18 18
"	17.	23	22 22	17 54
"	21.	23	31 6	17 31
"	25.	23	39 43	17 11

The comet is crossing the lower portion of the square of Pegasus. It is desirable that observations should be continued as long as possible, in order to detect any deviation from parabolic motion.

BRITISH ASTRONOMICAL ASSOCIATION HANDBOOK FOR 1923.—Two years ago, when the well-known "Companion to the Observatory" was discontinued, the Council of the British Astronomical Association decided to bring out the Handbook to take its place (London: Eyre and Spottiswoode, Ltd. Price 2s. to non-members.) Its aim is to supplement, not to supersede the Nautical Almanac, from which little is reprinted except the physical ephemerides. The periods of visibility of the planets are shown graphically; details of important occultations, including four of Aldebaran, are given for 12 stations. Ephemerides are given for Vesta, Eros, and D'Arrest's Comet; it is hoped to extend this section further in future. The large-scale diagrams of the small stars near Uranus and Neptune will be useful for observers of these planets. Notes are included on telescopic objects, lists of tests, ephemerides of variables, and in particular the dates of maxima of 27 stars that attain naked-eye visibility. There are also definitions and an extended list of astronomical constants and elements, which will be slightly varied from year to year. There are thus few observers who will not find the book useful in their domes.

ATMOSPHERIC DISPERSION IN PARALLAX WORK.—One of the factors in the great improvement that has been effected in the photographic determination of stellar parallax has been the recognition that work must be limited to the neighbourhood of the meridian, where the effect of atmospheric dispersion is small. Messrs W. M. H. Greaves and C. Davidson have investigated the resulting correction to the parallax for stars of extreme spectral type in a paper read at R.A.S. November meeting. At 20 minutes of time from the meridian the correction for type B<sub>0</sub> is -0".099, and for type M +0".005. These are quantities that cannot be neglected nowadays, so the necessity is emphasised for working still closer to the meridian where possible.

The same difficulty is present in obtaining the solar parallax from photographs of Eros or other small planets, especially since the diurnal method necessarily involves considerable hour angles. The error can be diminished by using a visual refractor with a light filter, if the object is bright enough to permit of this.

INTERFEROMETER MEASURES OF DOUBLE STARS.—The *Astrophysical Journal* for July has a paper by Mr. Paul W. Merrill on this subject. Mr. Merrill continued the observations of Capella with the 100-in. telescope at Mt. Wilson, and gives the following orbit from his own and Anderson's measures: Period 104.022 days,  $a = 0".0536$ , distance = 126,630,000 km., parallax = 0".0632, masses 4.2 and 3.3 in terms of sun. He finds that the Greenwich measures in 1900 (on which considerable doubt has been cast) are fairly well represented on the supposition of a motion of the node of 0".9 per annum; this motion is suggested by the interferometer measures themselves.

The duplicity of  $\kappa$  Ursæ Majoris was independently detected with the interferometer. The magnitude difference is much greater than in Capella, but does not exceed half a magnitude. When Aitken discovered its duplicity in 1907-8, the position-angle and distance were 283°.2, 0".21; they are now 251°.3, 0".08.

$\nu^a$  Bootis was also examined, but the results were more doubtful; the method is obviously a very powerful one in cases where the magnitudes are not too unequal.

SOLAR PROMINENCE ACTIVITY.—Every half-year the Kodaikanal Observatory, India, issues a bulletin giving a summary of prominence observations during that period. The data for the first half of the present year in Bulletin No. lxx. have just been received. The mean daily areas and daily numbers of the prominences are few, as was to be expected from the cyclical nature of the phenomena, the respective figures being 3.17 (square minutes) and 11.05. Their distribution in latitude shows maxima in the belt 45°-50° in both hemispheres, and is very similar to that for the previous half-year; this indicates that a new cycle of activity has begun in the higher zones of prominences. The statistics give further the distribution of prominences east and west of the sun's axis, the activity of the metallic prominences, particulars of the displacements of lines observed in the spectra of the chromosphere and prominences, reversals and displacements of H $\alpha$  and D $\beta$ , and finally, areas and numbers of prominences projected on the disc as absorption markings. These valuable data are of great importance because they provide a complete record of the activity of the sun from a prominence point of view on a homogeneous system.