

ASTRONOMICAL NOTES

Eclipses.—A total eclipse of the Sun will occur on October 12; but no phase of the eclipse will be visible in this country. The path of totality lies entirely in the Antarctic regions. On October 28, there will be a partial eclipse of the Moon which will also be invisible in India. The magnitude of the partial eclipse will be 0.992 with the Moon's diameter as the unit.

Planets during October 1939.—Both Mercury and Venus will be evening stars and will be low down in the western sky at sunset. Mars can be seen on the Meridian in the early part of the night; it is moving away from the Earth and getting fainter, the stellar magnitude decreasing from -1.0 to -0.4 during the month. Jupiter will continue to be a bright object favourably situated for observation for the greater part of the night. Likewise will be Saturn, which is in opposition to the Sun on October 22. It will be at its maximum brightness magnitude 0.1 (nearly equal to Vega), about the middle of the month. Uranus is near the western border of Taurus and is slowly moving in a retrograde direction; it can be seen on the meridian about a couple of hours after midnight. On October 29, there will be a

close conjunction of the planet with the Moon, the angular distance between the two at the time being a little more than a degree. Neptune is a morning star and with some optical aid, can be located as a faint object lying midway between the two fourth magnitude stars ν Leonis and ν Virginis.

Comets.—An unexpected Comet was discovered by M. Rigollet on July 28, in the constellation Taurus. It was fairly bright (of magnitude 8) at the time, and diffuse with a central condensation but without a tail. According to the orbit computed, the time of perihelion passage appears to have been 1939 August 9. The Comet is receding from the Earth and becoming fainter. Dr. Cunningham suggests that this Comet is probably identical with Comet 1788 II.

Prof. Kaminsky of Tashkent has reported the discovery on July 24 of another new Comet in the constellation Aquila. The object was bright at that time (of the seventh magnitude), and moving rapidly in a south-easterly direction. The number of Comets, discovered so far this year, is nine.

T. P. B.

Magnetic Notes for July, 1939

MAGNETIC CONDITIONS.—The days (G.M.T. midnight to midnight), are classified *quiet*, *slightly* disturbed, *moderately* disturbed, *greatly* disturbed, or *very greatly* disturbed, on the basis of a critical examination of the Declination, Horizontal Force and Vertical Force magnetograms of the Alibag Magnetic Observatory, Bombay. The oscillations in the different elements on a particular day as also the deviation of the day's magnetograms from those of a *selected quiet* day during the month are taken into account in assigning the character for the day in question.

The month of July, 1939, was magnetically more active than the previous month. During the month of July there were 9 *quiet* days, 14 days of *slight* disturbance, and 8 of *moderate* disturbance. There were no days of *great* disturbance. The magnetic conditions during the month were quietest on the 9th and most disturbed on the 4th. The characters of individual days of the month are given below in tabular form.

Dates of the month of July 1939	Quiet days	Disturbed days	
		Slight	Moderate
	6 to 10, 13, 18, 30, 31	1, 2, 12, 15, 16, 17, 19, 22, 23-25 and 27-29	3, 4, 5, 11, 14, 20, 21 and 26

Magnetic Storms.—During July 1939, 5 *moderate* storms each with a prominent 'sudden commencement' in all the three magnetic elements were recorded, as against 3 (2 moderate and 1 great) during the corresponding period last year. The mean character figure for the month was 0.97 according to the international scheme (0 = quiet, 1 = slight disturbance, 2 = larger disturbance) as against 0.52 for July of last year.

M. R. RANGASWAMI.