

Equatorial Observations made at the U. S. Naval Observatory.

(Communicated by Rear Admiral *C. H. Davis*, Superintendent.)

End of the Eclipse of the Sun, Sept. 28, 1875.

Wash. m. t.	Instrument	Power	Observer	Remarks
19 ^h 4 ^m 44 ^s 7 ±5 ^s	9½inch Equatorial	132	A. Hall	Haze, and observed time doubtful
19 4 26.6	Comet Seeker	40	E. S. Holden	Uncertain by several seconds. Contact noted at 21 ^s but seconds counted till 31 ^s , when limb was seen round without doubt.

Occultations of Saturn, Aug. 6 and Sept. 2, 1876.

Immersion Aug. 6.				Wash. m. t.	Observer
First contact with Ball	10 ^h 33 ^m 21 ^s .0	A. Hall	Fourth contact with Ball	11 ^h 0 ^m 23 ^s .0	W. Harkness
" " " Ring	10 33 32.7	"	Last " " Ring	11 1 4.9	"
Disapp. opening on following side	10 34 5.7	"	Immersion Sept. 2.		
" " " preceding "	10 35 7.6	"	First contact with Ball	14 38 22.9	A. Hall
Second contact with Ball	10 35 32.8	"	Middle of Ball	14 38 45.3	"
Emersion Aug. 6.			Second contact with Ball	14 39 8.2	"
Middel of Ring	10 56 22.2 :	A. Hall	Last edge of Ring	14 39 36.6	"
Third contact with Ball	10 57 25.5 :	"	Immersion Sept. 2.		
Middel of Ball	10 58 49.1	"	First edge of Ring	14 37 53.3	E. Frisby
Fourth contact with Ball	11 0 13.4	"	" contact with Ball	14 38 22.2	"
Last-contact with Ring	11 1 14.3	"	Second " " "	14 39 7.4	"
Immersion Aug. 6.			Last edge of Ring	14 39 34.1	"
First contact with Ball	10 33 14.0	E. Frisby	Remarks. The occultations of Saturn were observed by Prof. Hall with the 26inch Refractor, power 400: by Mr. Frisby with the 9½inch Equatorial, on Aug. 6 with power 202, and on Sept. 2 with power 132; and by Prof. Harkness with his own telescope having an objective of 3inches and a magnifying power of 133. At immersion on Aug. 6 the images were poor; but at emersion, and on Sept. 2 the images were good.		
Second contact with Ball	10 35 28.0	"	No distortion of the ball or ring of the planet was noticed by any of the observers.		
Emersion Aug. 6.			15. Sept. 1876.		
First edge of Ring	10 56 13.1	E. Frisby			
Fourth contact with Ball	11 0 15.9	"			
Second edge of Ring	11 1 20.0	"			
Immersion Aug. 6.					
First contact with Ball	10 32 55.0	W. Harkness			
Second " " "	10 35 10.2	"			
Emersion Aug. 6.					
Third contact with Ball	10 57 39.5	W. Harkness			

Circular Orbit of ϵ Librae (= Scorpii).

(Read before the Royal Irish Academy.)

Node = 10°51', Inclination = 72°27', Period = 95 years.

Least Distance 0''38 in 1859.62. Greatest Distance 1''25 in 1883.37.

Markree, 20. September 1876.

W. Doberck.