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MEASURES OF THE SATELLITES OF URANUS IN 1910 AND 1911

The measures of the satellites of *Uranus* which follow were all made with the 36-inch telescope, using a 350-power eyepiece. Measures were made only on nights when the two faint inner satellites were fairly well seen, and no attempt was made to secure a longer list of measures of the two outer satellites, *Titania* and *Oberon*.

Each printed angle is the mean of at least eight micrometer settings (frequently ten), half made before, the other half after the measures for distance. Each printed distance is also the mean of eight or ten settings, half made with fixed wire on the satellite, the other half with fixed wire bisecting the planet. The measures have not been corrected for differential refraction.

R. G. AITKEN.

January 12, 1912.

ARIEL REFERRED TO URANUS

1910	Mt. H. Sid. T.	θ_0	ρ_0
July 27	20 ^h 16 ^m 16 ^s .0	75°.24	
	20 16 42.0		11".59
August 3	20 33 38.8	358.40	
	20 33 33.3		13.82
August 24	20 49 59.5	114.03	
	20 50 28.4		11.18
August 31	19 51 1.2	18.06	
	19 51 1.6		13.00
1911			
July 29	20 2 33.8	301.75	
	20 1 47.6		11.94
August 4	20 9 44.7	65.87	
	20 11 13.1		11.04
August 10	21 22 34.1	205.95	
	21 22 37.8		13.45
August 11	19 25 28.0	349.24	
	19 26 1.8		13.47
August 15	19 35 24.4	193.94	
	19 36 10.5		13.94

1911	Mt. H. Sid. T.	θ_0	ρ_0
August 18	19 51 29.6	261.25	
	19 48 38.9		11.04
August 20	19 6 34.5	186.27	
	19 5 57.5		14.01
August 28	19 43 28.4	241.30	
	19 42 44.8		11.61

NOTES

- August 11, 1911. A faint star near *Ariel*. Identification of the satellite probably correct.
 August 18, 1911. Measures very difficult because of poor seeing.
 August 28, 1911. Measures very difficult. *Umbriel* not seen.

UMBRIEL REFERRED TO URANUS

1910	Mt. H. Sid. T.	θ_0	ρ_0
August 2	20 ^h 43 ^m 20 ^s .4	325°.93	
	20 42 37.8		17".93
August 3	20 56 34.7	43.49	
	20 57 57.4		17.53
August 31	20 15 54.7	315.76	
	20 15 42.3		16.44
Sept. 21	19 39 46.5	336.12	
	19 38 8.4		17.97
1911			
July 29	20 32 25.7	360.98	
	20 32 23.1		20.14
August 4	19 39 53.9	164.40	
	19 40 19.9		18.74
August 10	20 51 26.2	326.76	
	20 53 5.1		18.19
August 11	19 57 12.4	38.59	
	19 57 6.9		17.10
August 15	19 18 48.1	23.69	
	19 19 15.2		18.29
August 17	19 36 33.0	199.69	
	19 36 8.9		18.85

NOTES

- August 10 and 17, 1911. Measures very difficult. On the latter date *Ariel* could not be seen well enough for measures.

TITANIA REFERRED TO URANUS

1910		Mt. H. Sid. T.	θ_0	ρ_0
July	27	20 ^h 44 ^m 45 ^s .2	186°.46	
		20 44 46.9		32".18
August	3	21 15 52.8	119.73	
		21 15 57.1		26.62
August	24	21 13 42.0	258.16	
		21 14 24.4		26.04
August	31	20 35 58.3	189.47	
		20 36 11.3		32.03
Sept.	21	20 23 42.8	340.12	
		20 24 35.9		29.77
¹⁹¹¹				
July	29	21 20 40.8	234.18	
		21 20 34.4		26.49
August	4	20 48 39.5	136.71	
		20 48 52.2		27.54
August	15	20 2 6.9	213.40	
		20 1 54.9		29.72
August	20	19 23 12.9	59.69	
		19 23 3.2		25.97
August	28	20 10 53.6	30.67	
		20 10 55.4		29.59

OBERON REFERRED TO URANUS

1910		Mt. H. Sid. T.	θ_0	ρ_0
July	27	20 ^h 57 ^m 31 ^s .1	186°.21	
		20 57 32.2		43".73
August	31	20 49 51.9	34.01	
		20 50 5.0		39.97
Sept.	21	20 44 15.9	233.31	
		20 43 26.1		36.85
¹⁹¹¹				
July	29	20 59 12.9	279.21	
		20 59 21.7		32.63
August	4	20 31 2.0	72.65	
		20 31 10.1		33.07
August	15	19 51 5.8	8.30	
		19 51 6.9		41.98
August	20	19 39 1.4	150.30	
		19 39 14.9		38.85