

OBSERVATIONS OF ROSS 1502

Plate Number	Obs- server	Date	Julian Date	Phase	Component 1			Component 2		
					$\Delta\lambda$	Lines	O. C.	$\Delta\lambda$	Lines	O. C.
1918										
217	P	June 22	2 424 767.801	3.4559	+38.3	6	+0.4	+41.7	6	+4.4
1919										
2238	P	July 4	2 444 798	8.8904	+41.9	9	+1.4	+64.9	9	+5.2
2484	B	" 22	2 462 729	8.7780	+42.3	9	+1.7	+65.2	8	+9.9
2510	Y	" 23	2 463 709	9.8180	+41.7	6	+1.6	+58.0	4	+7.4
2595	Y	Aug 6	2 477 746	2.7246	+47.0	4	+5.0	+40.9	5	+0.2
2711	H	" 15	2 486 700	4.2739	+42.7	2	+2.0	+39.9	2	+0.7
2798	Y	" 22	2 493 674	8.4549	+37.2	7	+4.2	+45.2	5	+4.4
2923	H	Sept 12	2 514 644	8.0815	+39.4	10	+1.6	+39.6	9	+5.1
2937	Y	" 13	2 515 634	9.0715	+44.6	5	+1.6	+57.4	6	+0.7
1920										
4057	H	April 9	2 424 993	7.9995	+33.7	6	+0.2	+41.4	5	+2.2
4448	H	" 23	2 438 952	0.9454	+34.4	7	+1.0	+33.8	7	+4.2
4490	H	" 30	2 445 958	7.9211	+37.2	5	+4.9	+32.4	5	+0.4
4790	P	Aug 5	2 542 740	10.0461	+31.8	7	+2.1	+54.5	7	+10.4
4802	P	" 7	2 544 679	4.4251	+40.6	6	+2.3	+44.9	4	+2.2
4844	Y	" 8	2 545 704	2.4504	+42.2	10	+4.9	+42.8	11	+0.2
4826	B	" 9	2 546 696	3.4424	+39.2	4	+4.4	+44.3	5	+11.3

From the preliminary elements, given later, observation equations were built up according to the notation of Lehman-Filhés, modified to suit the case of double spectra,* and a least squares solution effected. Since the observations extended over parts of three seasons, the period was also included in the solution. This necessitated treating all the observations separately.

By making the following transformation a set of 32 observation equations involving the seven unknowns γ , K_1 , K_2 , c , ω , P , and T were built up. The weights are given in the last column.

$$\begin{aligned}
 x &= \delta\gamma \\
 y &= \delta K_1 \\
 z &= \delta K_2 \\
 t &= 50 \delta c \\
 u &= [2.81500] \delta P \\
 v &= 50 \delta \omega \\
 w &= [1.53628] \delta T
 \end{aligned}$$

*Dominion Observatory Publications, Vol. I, page 327.