

regions. Accuracy of setting is dependent to a great degree on the careful balancing of the intensities of positive and negative when making the settings or when printing out the positive. The agreement between the overlapping-positive-with-negative measurements (De Lury) and the aligning-negative-with-negative measurements (Plaskett) is only fair; and both measures seem greatly superior to the agreement of the solar standards or of the stellar plates.

TABLE II

MEASUREMENTS OF  $\beta$  GEMINORUM BY TWO METHODS

(De Lury using positive-with-negative; Plaskett using the Hartmann method, negative-with-negative.)

$\beta$ GEM. PLATE	SUN PLATE	NO. OF RE-GIONS	D (DE LURY, 1917)			P (PLASKETT, 1909)			DIFFERENCE P-D km/sec.
			Measured Velocity km. sec.	Reduced Velocity km. sec.	Mean Velocity km. sec.	Measured Velocity km. sec.	Reduced Velocity km. sec.	Mean Velocity km. sec.	
1373-	1360+A	20	24.80	2.88	2.88	24.78	2.80	2.86	-0.02
1373-	1462+A	22	24.88	3.08	.....	24.23	2.43	.....	.....
1373-	1462+B	22	25.01	3.21	.....	24.31	2.51	.....	.....
1373-	1462+C	22	24.84	3.04	3.11	.....	.....	2.47	-0.64
1373-	1520+A	11	23.74	1.84	.....	25.01	3.11	.....	.....
1373-	1520+A	11	23.30	1.40	.....	.....	.....	.....	.....
1373-	1520+A	11	23.94	2.04	1.76	.....	.....	3.11	+1.35
1472-	1520+A	11	31.12	1.88	1.88	31.27	2.03	2.03	+0.15
1527+A...	1520-	11	25.56	0.85	.....	27.03	2.32	.....	.....
1527+A...	1520-	11	20.15	1.44	.....	.....	.....	.....	.....
1527+A...	1520-	11	27.12	2.41	.....	.....	.....	.....	.....
1527+A...	1520-	11	25.76	1.05	1.44	.....	.....	.....	.....
1527-	1520+A	11	20.31	1.60	.....	.....	.....	.....	.....
1527-	1520+A	11	20.13	1.42	.....	.....	.....	.....	.....
1527-	1520+A	11	26.00	1.38	.....	.....	.....	.....	.....
1527-	1520+A	11	26.12	1.41	1.45	.....	.....	2.32	+0.87
2.22						2.50			+0.34

The main advantages of the new form of comparator are:

1. A minimum of optical surfaces are used.

2. Images may be brought into coincidence; and thus the Evershed positive-with-negative method of measuring spectra may be employed without the disadvantages found in using the positive over the negative and with the added advantage that the intensities of positive and negative may be altered independently and contrast gained by using colored filters.