

fainter, since it is then near minimum and is varying so slowly that an accurate correction cannot be obtained.

It will be seen from the last column of the table that all the magnitudes are nearly represented by the formula,

except those derived from photographs taken on J. D. 1962, and 4431. On these dates, the star was at nearly its full brightness, and the deviations which amount to 0.4 of a magnitude are probably due to error of observation.

Table I. Observed Minima of BD. +43°4101.

Date	Gr. M. T.	J. D.	Mag.	Corr.	<i>E</i>	Phase	Corr. Ph.
1891 Aug. 17	19 <sup>h</sup> 21 <sup>m</sup>	1962.806	9.28	-0.99	62	+6.908	-5.92
1892 Oct. 22	13 31	2394.563	< 10.5	±0.71	76	+0.409	F
1895 Sept. 20	15 24	3457.642	9.31	+0.98	110	-0.848	+0.13
1896 » 30	11 42	3833.487	10.52	+0.71	122	-0.651	+0.06
» » 30	19 20	3833.806	< 11.5	±0.43	»	-0.332	F
» Oct. 1	13 35	3834.566	11.49	-0.43	»	+0.428	M
» » 31	12 15	3864.510	9.64	+0.90	123	-0.932	-0.03
» » 31	14 5	3864.587	10.02	+0.83	»	-0.855	-0.03
» Dec. 3	12 47	3897.533	9.85	-0.86	124	+0.787	+0.07
1897 Jan. 2	10 51	3927.452	10.85	+0.64	125	-0.598	+0.04
» April 6	20 59	4021.874	< 11.7	0.00	128	-0.088	F
» May 7	19 34	4052.815	11.54	+0.36	129	-0.451	-0.09
» Sept. 9	15 16	4177.636	10.02	-0.83	132	+0.846	+0.02
1898 Jan. 13	11 2	4303.460	11.69	0.00	137	-0.238	M
» May 21	20 4	4431.836	9.28	-0.99	141	+2.922	-1.93
1899 Aug. 30	12 46	4897.532	9.28	+0.99	156	-0.942	+0.05
1900 Mar. 7	21 43	5086.905	10.95	-0.60	162	+0.607	+0.01
» Aug. 9	20 13	5241.842	9.74	+0.89	167	-0.976	-0.09
1901 » 21	15 32	5618.647	< 10.6	±0.69	179	+0.181	F
1902 April 28	17 44	5868.739	11.54	+0.36	187	-0.159	M
» » 28	18 18	5868.762	11.44	+0.46	»	-0.136	M
» » 28	19 7	5868.797	11.44	+0.46	»	-0.101	M
» » 28	19 37	5868.817	11.49	+0.44	»	-0.081	M
» » 28	20 20	5868.847	11.44	+0.46	»	-0.051	M
» » 28	20 34	5868.857	11.44	+0.46	»	-0.041	M

The form of light curve may be determined by plotting the magnitudes and phases given in the fourth and seventh columns. The star retains its full brightness for 28 days, its photographic magnitude at maximum being 8.9. About a day before the minimum it begins to diminish, attaining the magnitude 9.0 at 1<sup>d</sup>05 before minimum, 9.5 at 0<sup>d</sup>94, 10.0 at 0<sup>d</sup>84, 10.5 at 0<sup>d</sup>71, 11.0 at 0<sup>d</sup>58, and 11.5 at 0<sup>d</sup>43. The light remains nearly constant for more than half a day, with the minimum magnitude 11.6. The time of increase is more uncertain, but apparently is nearly the same

as that of decrease. The period of this Algol star, 31.4 days, is more than three times that of any other as yet discovered, and the duration of minimum, 2 days, is double that of S Cancri, the next in length. The period of S Cancri is 9.5 days, and the duration of minimum 0.9 days. The last minimum of +43°4101 occurred on April 28, 1902, at 21<sup>h</sup>33<sup>m</sup> Gr. M. T. The predicted times of the next minima are May 30<sup>d</sup>4<sup>h</sup>51<sup>m</sup>, June 30<sup>d</sup>12<sup>h</sup>8<sup>m</sup>, July 31<sup>d</sup>19<sup>h</sup>26<sup>m</sup>, September 1<sup>d</sup>2<sup>h</sup>44<sup>m</sup>, and October 2<sup>d</sup>10<sup>h</sup>2<sup>m</sup>, 1902...

Cambridge Mass., May 6, 1902.

Edward C. Pickering.

### Sull' effemeride rigorosa di (433) Eros

nella Circolare No. 9 della Conferenza astro-fotografica internazionale di luglio 1900.

Da conteggi, certo incompleti, ma sufficienti per lo scopo, risulta ad evidenza che il grado di precisione dei moti in AR. e in Decl. di Eros per 6 ore, dedotti con alto rigore di conto a Parigi, in base agli elementi da me indicati, è tale da gareggiare colle grandezze  $\frac{\Delta\alpha}{\Delta t}(t_1 - t_0)$

e  $\frac{\Delta\delta}{\Delta t}(t_1 - t_0)$  che si dedurrebbero dalle sole osservazioni e misure senza alcuna teoria.

Gli astronomi quindi posseggono ora quanto basta per quella parte così importante del noto problema, che li interessa.

Roma, 24 aprile 1902.

E. Millosevich.