Improved elements of AS Centauri, by *Miss H. van den Bergh van Eysinga.*

The variability of this star was announced by E. HERTZSPRUNG in *B.A.N.* No. 56, p. 113. From estimates made on 90 Franklin-Adams plates he derived an apparent period of $^{d}\cdot 152609$. The mean light curve proved the variable to be of the W UMa type.

TABLE 1.

minima J. D. hel. M.A.T.Gr. — 2420000	epoch	O - C	minima J. D. hel. M.A.T.Gr. — 2420000	epoch	O - C
d		d	d		d
0963·321	0	+ ·005	4263·406	21623	+ ·022
3787·526	18505	+ 6	87·343	21780	— 2
89·496	18518	— 8	88·270	21786	+ 11
91·501	18531	+ 13	89·378	21793	+ 49
3813·462	18675	— 3	94·360	21826	— 6
14·383	18681	+ 2	97·256	21845	— 10
·520	18682	— 14	4558·380	23556	— 16
17·433	18701	0	59·322	23562	+ 11
33·604	18807	— 7	95·302	23798	— 27
68·244	19034	— 11	5025·403	26616	— 5
72·390	19061	+ 14	5320·256	28548	— 11
76·327	19087	— 17	27·298	28594	+ 10
77·397	19094	— 15	79·375	28935	+ 45
78·318	19100	— 10	5561·575	30129	+ 18
80·323	19113	+ 11	5773·251	31516	+ 12
·434	19114	— 31	75·230	31529	+ 7
84·410	19140	— 23	91·228	31634	— 20
89·468	19173	— 1	5923·573	32501	+ 5
3904·268	19270	— 5	50·565	32678	— 16
11·278	19316	— 16	6030·409	33201	+ 8
18·279	19362	— 35	6118·317	33777	+ 7
31·276	19447	— 11	20·310	33790	+ 17
33·244	19460	— 27	6828·285	38429	— 6
43·205	19525	+ 14	29·334	38436	— 24
44·304	19532	+ 45	7426·568	42349	+ 14
63·198	19656	+ 14	7619·197	43611	+ 38
4172·431	21027	+ 7	33·197	43703	— 3
77·454	21060	— 6	8191·492	47361	+ 14
98·384	21197	+ 15	8224·434	47577	— 9
4200·348	21210	— 5	9097·230	53296	— 38
05·565	21244	+ 23	9344·386	54915	+ 29
06·310	21249	+ 5	9421·250	55419	— 27
·451	21250	— 7	23·249	55432	— 12
26·281	21380	— 17			

As the number of plates of this region now totals well over 900, the variable was reinvestigated by the writer. On several plates the variable is very faint and for this reason estimates could be made on 622 plates only. The following comparison stars have been used:

	s	m
a	— 4·4	— ·47
b	·0	·00
c	2·3	·37
d	4·3	·70

The provisional magnitudes in the last column were derived from measurements on five plates in the Schilt microphotometer carried out by Mr. C. J. KOOREMAN. The relation between the steps and these magnitudes is: $m = + \cdot 08 + \cdot 13\ s$.

The elements for the time of minimum have been computed by the method of least squares from 67 epochs of minimum. The data of this solution are given in Table 1. The resulting elements are:

$$\text{J. D. } 2425025^{d}\cdot 408 + {}^{d}\cdot 15261844\ (E - 26616)$$
$$\pm \quad 2 \qquad \pm \quad 21 \qquad \text{(m.e.)}$$

In order to obtain the period of revolution the period given here must be doubled. As there exists no noticeable difference between even and odd minima, the further reduction has been carried out with the apparent period. The mean error derived for the period is only one hundredth of that formerly obtained by HERTZSPRUNG.

TABLE 2*a*.

mean phase	mean brightness	*n*
P	s	
·019	2·58	26
·065	2·45	26
·110	2·02	26
·145	1·82	26
·180	1·73	25
·226	1·73	25
·266	1·37	26
·290	1·31	26
·333	1·41	26
·380	1·23	26
·438	1·22	26
·471	1·40	26
·510	1·68	26
·556	1·68	26
·599	1·72	26
·640	1·83	26
·678	1·99	26
·724	2·25	26
·753	2·51	26
·792	2·48	26
·829	2·44	26
·875	3·15	26
·928	2·82	26
·977	2·80	26