

VARIABLE STAR SECTION.

CIRCULAR No. 180.

CH PUPPIS.

Frank M. Bateson & A.F. Jones.

SUMMARY: From visual observations of CH Pup eight maxima were determined in the interval J.D. 2,435,864 to 2,440,160. A period of 498.66 days is determined with a mean visual range of 9.56 to <14.0. Rise to maximum is twice as steep as the fall. CH Pup is typical of a Mira Ceti variable with a long period in having a wide divergence from the mean period.

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INTRODUCTION: CH Pup is listed in G.C.V.S. (1970) as Mira type with a period of 530 days and a range of 9.0 to <13 ptg. Epoch of maximum is given as 2,428,465.

CHARTS & SEQUENCE: Hoffmeister (1) issued an identification chart. Bateson, Jones & Stranson (2) published charts 259 and 260, on which the fainter comparison stars were identified by letters pending determination of reliable magnitudes. Bateson, Gordon & Menzies (3) have now published V and B magnitudes for these stars.

OBSERVATIONS: Visual observations from J.D. 2,435,864 (1957 Jan. 24) to 2,440,160 (1968 Oct. 30) are listed in Table 1. The frequency of observations does not justify ten day means so individual estimates are given with the observers' abbreviations omitted. Almost all the records are from A.F. Jones.

DISCUSSION: Table 2 lists the eight maxima observed in the usual form. The mean period from these is 498.66 days. CH Pup is typical of a Mira variable with this period in having a wide divergence in the intervals between successive maxima. Such intervals range from 447 to 561 days. Maxima visual magnitudes are from 7.9 to 10.3 with a mean of 9.56.

Generally, but not always, maxima brighter than 10.0 tend to be sharper than those fainter than this magnitude. The latter are generally flat. There is some scatter in the observations at bright maxima but otherwise the observations show good accordance.

The increase to maximum is much steeper than the decline. The average time to rise from 14.0 to maximum being 101 days, whilst the average interval for the decline from maximum to 14.0 is 206 days. Minima fall below the thresholds of the instruments employed and are fainter than 14.0.

1971 August 2

18 POOLES ROAD,
GREERTON,
TAURANGA,
NEW ZEALAND.

REFERENCES:

- (1) 1957. Hoffmeister, C. MVS 247
- (2) 1970. Bateson, F.M., Jones, A.F. & Stranson, I. "Charts for Southern Variables" Series 7. Published by F.M. Bateson.
- (3) 1971. Bateson, F.M., Gordon, P. & Menzies, B. Circ. 177, VSS, RASNZ

TABLE 1.

CH PUPPIS--VISUAL OBSERVATIONS.

2,430,000 +													
J.D.	MAG.	J.D.	MAG	J.D.	Mag.	J.D.	Mag.	J.D.	Mag	J.D.	Mag.		
5864	9.8	6643	14.0	7247	11.3	7786	10.5	8298	9.4	8878	11.6	9443	12.0
898	10.1	662	<14.0	258	11.3	793	10.5	313	9.8	886	11.7	469	12.7
929	9.8	673	<14.0	266	10.1	807	10.4	328	10.3	897	11.8	480	12.9
938	9.9	687	14.3	285	10.4	811	9.6	344	10.4	918	12.6	498	13.0
6161	<13.5	704	14.2	295	10.2	821	9.7	356	10.5	929	<12.7	509	13.3
174	<11.9	716	13.7	310	10.3	825	10.1	363	10.5	932	12.7	520	13.9
184	<11.9	720	13.6	325	10.7	838	9.7	380	10.7	938	<12.7	529	14.0
201	13.2	727	13.2	338	10.2	847	10.2	403	11.7	969	13.5	538	14.2
216	13.2	734	11.4	350	11.2	854	10.2	417	12.0	9000	14.0	561	<14.0
224	13.1	747	10.5	355	11.2	870	10.3	429	12.6	008	14.0	585	<14.0
244	11.8	752	10.3	368	11.6	882	10.5	440	12.6	022	<14.0	595	<13.5
260	10.8	760	10.1	377	11.7	889	10.7	462	13.4	031	<13.9	610	<13.9
271	10.2	766	9.9	384	11.8	902	11.2	468	13.4	056	<14.0	617	<14.0
287	11.2	781	8.5	395	12.6	914	11.8	475	13.5	092	<13.9	639	<13.9
290	10.4	786	8.8	405	12.6	920	12.1	488	<12.7	109	<14.0	675	<13.5
305	10.1	796	9.1	412	12.6	940	12.6	502	<13.1	123	<14.0	687	<13.9
315	10.6	808	8.5	429	12.8	959	12.8	526	<13.1	139	<14.0	700	<13.1
318	10.4	820	8.9	442	12.8	990	13.0	554	<13.1	152	<14.0	718	14.5
334	10.2	841	10.2	455	13.2	8001	13.8	590	<12.5	159	<12.7	733	12.8
340	10.1	847	10.2	461	13.3	013	14.1	596	<12.5	171	<14.0	763	10.4
345	10.2	868	10.5	469	<12.5	023	14.0	608	<12.5	182	14.0	773	10.4
349	10.3	882	10.7	483	<13.5	043	<14.0	620	<14.0	199	13.7	790	9.9
357	10.2	892	11.4	502	<14.2	053	<14.0	622	<14.0	206	13.8	791	10.4
362	10.3	923	12.1	522	<13.5	074	<14.0	642	<14.0	218	13.4	806	10.3
371	10.3	934	12.6	529	<14.0	086	14.5	657	<13.5	226	12.8	816	10.4
377	10.3	951	12.6	549	<13.9	103	<14.0	669	<13.5	233	11.7	833	10.3
382	10.5	970	13.2	562	<13.9	109	<14.0	678	<14.0	243	10.4	844	10.3
396	10.7	989	13.8	575	<13.9	119	<13.9	698	<14.0	244	9.9	857	10.3
406	11.1	998	13.8	587	<14.0	137	<14.0	710	14.5	253	8.2	866	10.5
425	11.9	7019	13.9	615	<13.6	146	<14.0	726	13.7	261	7.9	876	10.7
446	12.4	042	<14.0	641	<14.0	162	<14.0	735	12.4	270	7.8	886	10.7
458	12.6	058	<13.5	650	<14.0	168	<14.0	752	11.8	283	7.8	894	11.0
470	12.6	070	<13.9	663	<13.9	176	<13.9	761	11.4	295	7.9	906	11.6
498	13.7	082	<13.9	674	<14.0	182	13.8	768	11.4	302	7.9	918	11.8
510	13.8	097	<13.9	691	<13.9	195	<12.7	780	11.1	316	7.9	936	12.8
521	14.1	112	<13.1	697	<13.9	197	<13.5	793	10.5	327	8.1	943	12.8
528	14.1	114	<13.5	705	<13.9	212	13.7	805	10.6	334	8.2	963	12.8
547	<14.0	134	<13.9	719	<13.5	231	11.8	813	10.4	348	8.3	974	12.9
556	<14.0	146	<13.9	730	13.4	238	10.5	822	10.4	355	8.4	981	13.0
572	<14.0	166	<14.0	739	12.4	244	10.3	831	10.3	379	10.0	2440000+	
587	<14.0	194	<13.5	754	11.0	253	9.8	844	10.4	394	10.6	003	13.0
604	<14.0	205	<14.0	763	10.7	262	8.0	854	10.5	407	11.4	040	<13.1
615	<14.0	219	13.6	772	10.5	271	8.0	859	10.6	414	11.5	057	<13.9
634	<14.0	235	12.0	780	10.3	289	9.1	870	11.3	425	11.4	067	<14.0
												087	14.3
												096	<14.0
												127	<13.9
												148	<14.0
												160	<14.0

TABLE 2.

CH PUPPIS--OBSERVED MAXIMA.

J.D.	MAG.	Int.	Wt.
		_a	
2,436,334	10.2	...	3
797	8.8	463	4
2,437,295	10.2	498	4
816	9.9	521	4
2,438,263	9.0	447	3
824	10.3	561	4
2,439,296	7.9	472	5
819	10.2	523	4