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INTERMEDIATE BAND PHOTOMETRY OF V PUPPIS

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SUMARIO

Se han hecho ciento cincuenta observaciones de la binaria V Puppis, en el sistema *(33, 35, 37, 40, 45, 52, 58, 63)*. Las curvas de luz obtenidas son de gran precisión. Las observaciones indican que la amplitud del mínimo primario depende de la región espectral en que se observa, a menor longitud de onda corresponde mayor amplitud. Se derivan valores de la magnitud absoluta en el mínimo y en el máximo.

ABSTRACT

Some 150 observations were made on V Puppis on the *(33, 35, 37, 40, 45, 52, 58, 63)*—photometric system. The obtained light curves are of high quality. The observed amplitude of the light variations for the primary minimum depends on the spectral region in which the observations are made. To the shortest wavelength corresponds the largest amplitude. Absolute visual magnitudes are derived at primary minimum and maximum light.

V Puppis is a double-lined eclipsing variable. Its light variability was reported by Williams (1886). So far V Pup has been the subject of three photometric investigations; the first one by Roberts (1903), based on visual observations; the second one by van Gent (1939), based on photovisual observations; and the third, by Hogg (1946), based on photoelectric observations made with an Osram cell, type UNG7 without filter. These photometric results suggest that we are dealing with a system of two ellipsoids that move on an almost circular orbit, inclined some 75°, in a period of 1.4544877 days.

In 1968 January about 150 observations were made on six nights of V Puppis on the *(33, 35, 37, 40, 45, 52, 58, 63)*—intermediate band photometric system described elsewhere (cf. Mendoza 1971*a*). The observations were obtained with the photometer attached to the 40-inch telescope of the European Southern Observatory, La Silla, Chile. The filters used in this investigation were exactly the same as those used by us at Tololo (Mendoza 1971*a*). However, the detector used at La Silla was an EMI 6256A unrefrigerated photocell. In order to transform our data to the Mitchell-Johnson system (Mitchell and Johnson 1969) the four stars, listed in Table 1, were observed. To allow for extinction corrections two stars, listed in Table 2, were also observed. The columns of Tables 1 and 2 contain first, the Bright Star Catalogue number BS (Hoffleit 1964); second, the name of the star; third, the MK-type; fourth through eleventh, the *52*-magnitude and *33-52, 35-52, 37-52, 40-52, 45-52, 52-58,* and *52-63* color indices, respectively; and the last column gives the number of independent observations. The observed atmospheric extinction has been reported elsewhere (Mendoza, Moreno and Stock 1968; Mendoza 1971*b*).

TABLE 1

Standard Stars

BS	*Name*	*MK*	*52*	*33-52*	*35-52*	*37-52*	*40-52*	*45-52*	*52-58*	*52-63*	*n*
1855	υ Ori	B0 V	4.58	−1.72	−1.59	−1.05	−0.34	−0.08	−0.09	−0.15	18
3249	β Cnc	K4 III	3.94	+3.10	+2.70	+2.77	+2.18	+0.64	+0.75	+1.17	2
3454	η Hya	B3 V	4.27	−1.24	−1.14	−0.75	−0.25	−0.06	−0.06	−0.10	16
4456	90 Leo	B3 V	5.91	−1.11	−1.00	−0.64	−0.21	−0.05	−0.06	−0.09	5

TABLE 2

Comparison Stars

BS	*Name*	*MK*	*52*	*33-52*	*35-52*	*37-52*	*40-52*	*45-52*	*52-58*	*52-63*	*n*
3117	χ Car	B2 IV	3.458	−1.115	−1.021	−0.698	−0.230	−0.052	−0.056	−0.099	58
3148	[redacted]	(A2)	5.999	+0.119	+0.096	+0.094	+0.047	+0.013	+0.017	+0.011	57

TABLE 3

Journal of Observations of V Puppis

1968 Jan		33	1968 Jan		35	1968 Jan		37	1968 Jan		40	1968 Jan		45	1968 Jan		52	1968 Jan		58	1968 Jan		63
12	0026	3.102	12	0025	3.219	12	0024	3.733	12	0022	4.396	12	0021	4.610	12	0020	4.641	12	0019	4.700	12	0017	4.732
12	0051	3.040	12	0050	3.160	12	0049	3.667	12	0048	4.334	12	0047	4.547	12	0046	4.584	12	0044	4.636	12	0043	4.671
12	0112	3.000	12	0110	3.119	12	0109	3.625	12	0108	4.301	12	0107	4.510	12	0106	4.549	12	0104	4.595	12	0103	4.634
12	0134	2.969	12	0133	3.090	12	0132	3.593	12	0131	4.265	12	0129	4.472	12	0128	4.511	12	0127	4.558	12	0126	4.586
12	0157	2.936	12	0156	3.059	12	0155	3.562	12	0153	4.227	12	0152	4.440	12	0151	4.473	12	0150	4.527	12	0149	4.559
12	0216	2.906	12	0215	3.030	12	0214	3.530	12	0213	4.206	12	0212	4.410	12	0211	4.452	12	0210	4.502	12	0208	4.535
12	0238	2.887	12	0237	3.008	12	0236	3.511	12	0234	4.180	12	0233	4.389	12	0232	4.424	12	0230	4.481	12	0229	4.522
12	0304	2.886	12	0302	3.001	12	0301	3.490	12	0300	4.159	12	0259	4.375	12	0258	4.412	12	0256	4.458	12	0255	4.498
12	0332	2.851	12	0330	2.976	12	0329	3.475	12	0328	4.144	12	0327	4.363	12	0326	4.395	12	0324	4.446	12	0323	4.488
12	0354	2.847	12	0353	2.982	12	0352	3.471	12	0351	4.142	12	0350	4.355	12	0349	4.392	12	0348	4.442	12	0347	4.467
12	0416	2.834	12	0415	2.956	12	0414	3.458	12	0413	4.125	12	0412	4.343	12	0411	4.373	12	0410	4.433	12	0409	4.469
12	0435	2.831	12	0434	2.942	12	0433	3.461	12	0432	4.123	12	0431	4.339	12	0430	4.371	12	0430	4.426	12	0429	4.469
12	0506	2.839	12	0505	2.951	12	0504	3.457	12	0503	4.126	12	0502	4.341	12	0501	4.379	12	0500	4.429	12	0459	4.459
12	0530	2.806	12	0528	2.921	12	0527	3.426	12	0526	4.096	12	0525	4.312	12	0524	4.343	12	0523	4.396	12	0522	4.428
12	0553	2.805	12	0552	2.925	12	0551	3.425	12	0550	4.092	12	0549	4.307	12	0548	4.338	12	0547	4.394	12	0545	4.430
12	0614	2.801	12	0612	2.921	12	0611	3.427	12	0610	4.096	12	0609	4.305	12	0607	4.334	12	0606	4.393	12	0605	4.419
12	0633	2.786	12	0632	2.912	12	0631	3.416	12	0630	4.077	12	0629	4.300	12	0628	4.330	12	0626	4.385	12	0625	4.417
12	0658	2.781	12	0657	2.906	12	0656	3.409	12	0654	4.076	12	0653	4.295	12	0652	4.326	12	0651	4.381	12	0650	4.413
12	0719	2.786	12	0717	2.905	12	0716	3.408	12	0715	4.069	12	0714	4.289	12	0713	4.321	12	0712	4.384	12	0710	4.417
12	0741	2.795	12	0740	2.912	12	0739	3.415	12	0738	4.073	12	0737	4.287	12	0735	4.324	12	0734	4.378	12	0733	4.414
12	0801	2.794	12	0800	2.913	12	0759	3.411	12	0757	4.073	12	0756	4.282	12	0755	4.319	12	0754	4.375	12	0753	4.404
13	0019	2.795	13	0017	2.926	13	0016	3.426	13	0015	4.088	13	0014	4.304	13	0013	4.337	13	0012	4.392	13	0010	4.420
13	0039	2.804	13	0038	2.932	13	0037	3.434	13	0037	4.096	13	0035	4.308	13	0034	4.342	13	0033	4.399	13	0032	4.426
13	0103	2.806	13	0059	2.918	13	0058	3.429	13	0056	4.089	13	0055	4.298	13	0054	4.335	13	0053	4.389	13	0052	4.425
13	0122	2.816	13	0121	2.935	13	0120	3.441	13	0119	4.099	13	0118	4.307	13	0117	4.349	13	0117	4.402	13	0116	4.427
13	0141	2.796	13	0140	2.915	13	0139	3.420	13	0139	4.084	13	0138	4.296	13	0137	4.332	13	0136	4.393	13	0135	4.419
13	0157	2.795	13	0156	2.915	13	0155	3.416	13	0154	4.084	13	0153	4.296	13	0153	4.337	13	0152	4.388	13	0151	4.422
13	0216	2.803	13	0215	2.927	13	0215	3.427	13	0214	4.095	13	0213	4.306	13	0213	4.340	13	0212	4.396	13	0211	4.435
13	0239	2.822	13	0238	2.947	13	0238	3.445	13	0237	4.114	13	0236	4.323	13	0235	4.352	13	0235	4.414	13	0234	4.446
13	0308	2.833	13	0307	2.950	13	0306	3.457	13	0305	4.119	13	0258	4.328	13	0258	4.362	13	0256	4.416	13	0255	4.441
13	0328	2.836	13	0327	2.949	13	0326	3.452	13	0325	4.117	13	0325	4.334	13	0324	4.371	13	0323	4.421	13	0323	4.456
13	0345	2.847	13	0344	2.966	13	0344	3.462	13	0343	4.132	13	0342	4.345	13	0341	4.382	13	0341	4.434	13	0340	4.465
13	0403	2.841	13	0402	2.953	13	0402	3.457	13	0401	4.125	13	0400	4.338	13	0359	4.369	13	0359	4.426	13	0358	4.463
13	0420	2.753	13	0419	2.963	13	0418	3.496	13	0418	4.142	13	0417	4.350	13	0416	4.382	13	0415	4.436	13	0415	4.469
13	0436	2.862	13	0435	2.975	13	0434	3.482	13	0433	4.156	13	0433	4.368	13	0432	4.395	13	0431	4.450	13	0430	4.481
13	0452	2.888	13	0451	2.979	13	0450	3.484	13	0450	4.152	13	0449	4.359	13	0448	4.393	13	0447	4.450	13	0447	4.481
13	0511	2.878	13	0510	2.996	13	0509	3.500	13	0508	4.169	13	0508	4.380	13	0507	4.411	13	0506	4.462	13	0505	4.499
13	0528	2.890	13	0527	3.011	13	0526	3.510	13	0525	4.177	13	0522	4.386	13	0523	4.419	13	0523	4.472	13	0522	4.504
13	0544	2.901	13	0543	3.027	13	0542	3.529	13	0542	4.193	13	0541	4.406	13	0540	4.438	13	0539	4.487	13	0538	4.523
13	0604	2.932	13	0602	3.050	13	0601	3.550	13	0600	4.213	13	0559	4.321	13	0559	4.453	13	0558	4.505	13	0557	4.537
13	0622	2.950	13	0621	3.075	13	0620	3.573	13	0619	4.236	13	0619	4.444	13	0618	4.479	13	0617	4.532	13	0616	4.565
13	0640	2.976	13	0639	3.098	13	0638	3.596	13	0637	4.262	13	0637	4.469	13	0636	4.504	13	0635	4.553	13	0634	4.588
13	0658	3.003	13	0657	3.133	13	0656	3.529	13	0655	4.288	13	0654	4.497	13	0654	4.529	13	0653	4.582	13	0652	4.612
13	0719	3.051	13	0716	3.166	13	0715	3.660	13	0714	4.322	13	0714	4.530	13	0713	4.559	13	0711	4.619	13	0711.	4.650
13	0734	3.065	13	0734	3.185	13	0733	3.684	13	0732	4.346	13	0731	4.558	13	0730	4.593	13	0730	4.647	13	0729	4.673
13	0757	3.107	13	0756	3.229	13	0755	3.721	13	0753	4.384	13	0752	4.595	13	0751	4.626	13	0750	4.687	13	0749	4.712
14	0011	2.995	14	0011	3.129	14	0010	3.625	14	0009	4.306	14	0008	4.512	14	0007	4.536	14	0007	4.587	14	0006	4.625
14	0031	3.044	14	0030	3.179	14	0029	3.680	14	0028	4.337	14	0027	4.547	14	0027	4.568	14	0026	4.627	14	0025	4.651
14	0047	3.095	14	0046	3.219	14	0045	3.713	14	0045	4.375	14	0044	4.584	14	0043	4.609	14	0042	4.661	14	0041	4.693
14	0103	3.138	14	0102	3.261	14	0101	3.759	14	0101	4.413	14	0100	4.618	14	0059	4.650	14	0058	4.701	14	0058	4.720

TABLE 3 (continued)

1968 Jan		33	1968 Jan		35	1968 Jan		37	1968 Jan		40	1968 Jan		45	1968 Jan		52	1968 Jan		58	1968 Jan		63
14	0123	3.193	14	0119	3.312	14	0118	3.812	14	0117	4.463	14	0117	4.674	14	0116	4.695	14	0115	4.742	14	0114	4.772
14	0142	3.245	14	0141	3.363	14	0140	3.857	14	0139	4.514	14	0139	4.712	14	0138	4.746	14	0137	4.789	14	0136	4.822
14	0158	3.290	14	0158	3.405	14	0157	3.897	14	0156	4.544	14	0155	4.759	14	0154	4.792	14	0153	4.843	14	0153	4.872
14	0217	3.345	14	0217	3.463	14	0216	3.952	14	0215	4.607	14	0214	4.802	14	0213	4.836	14	0211	4.891	14	0211	4.914
14	0232	3.377	14	0231	3.499	14	0231	3.985	14	0230	4.640	14	0229	4.834	14	0228	4.864	14	0227	4.919	14	0227	4.943
14	0248	3.392	14	0247	3.514	14	0247	4.007	14	0246	4.654	14	0245	4.859	14	0244	4.888	14	0243	4.940	14	0243	4.967
14	0305	3.387	14	0304	3.508	14	0303	4.002	14	0303	4.653	14	0302	4.858	14	0301	4.886	14	0300	4.941	14	0259	4.965
14	0322	3.376	14	0321	3.495	14	0320	3.983	14	0319	4.635	14	0319	4.839	14	0319	4.872	14	0317	4.927	14	0316	4.957
14	0343	3.357	14	0342	3.463	14	0341	3.954	14	0340	4.601	14	0339	4.823	14	0339	4.849	14	0338	4.906	14	0337	4.938
14	0359	3.395	14	0358	3.419	14	0358	3.912	14	0357	4.564	14	0356	4.776	14	0355	4.806	14	0354	4.862	14	0353	4.894
14	0415	3.249	14	0414	3.367	14	0413	3.861	14	0413	4.523	14	0412	4.728	14	0411	4.761	14	0410	4.817	14	0409	4.856
14	0431	3.198	14	0430	3.319	14	0429	3.818	14	0428	4.478	14	0427	4.690	14	0427	4.719	14	0426	4.778	14	0425	4.806
14	0446	3.148	14	0445	3.276	14	0444	3.772	14	0444	4.431	14	0443	4.643	14	0442	4.680	14	0441	4.734	14	0441	4.761
14	0501	3.108	14	0500	3.229	14	0459	3.729	14	0458	4.389	14	0458	4.597	14	0457	4.640	14	0456	4.695	14	0456	4.726
14	0519	3.086	14	0519	3.207	14	0518	3.705	14	0517	4.364	14	0516	4.573	14	0516	4.612	14	0515	4.666	14	0514	4.696
14	0535	3.043	14	0534	3.163	14	0534	3.661	14	0533	4.320	14	0532	4.534	14	0531	4.575	14	0530	4.630	14	0530	4.661
14	0550	3.022	14	0550	3.138	14	0549	3.640	14	0548	4.295	14	0547	4.510	14	0546	4.541	14	0546	4.609	14	0545	4.631
14	0606	2.985	14	0605	3.101	14	0604	3.602	14	0603	4.260	14	0603	4.470	14	0602	4.504	14	0601	4.566	14	0600	4.602
14	0625	2.955	14	0624	3.074	14	0623	3.573	14	0622	4.228	14	0621	4.443	14	0621	4.472	14	0620	4.537	14	0619	4.572
14	0640	2.933	14	0640	3.053	14	0639	3.558	14	0638	4.221	14	0637	4.425	14	0636	4.463	14	0636	4.519	14	0635	4.549
14	0657	2.906	14	0657	3.024	14	0656	3.529	14	0655	4.190	14	0654	4.398	14	0653	4.435	14	0652	4.488	14	0651	4.522
14	0714	2.891	14	0713	3.015	14	0712	3.515	14	0711	4.180	14	0711	4.383	14	0710	4.410	14	0709	4.474	14	0708	4.499
14	0733	2.879	14	0732	3.004	14	0731	3.503	14	0730	4.167	14	0730	4.371	14	0729	4.400	14	0728	4.461	14	0727	4.491
14	0749	2.864	14	0748	2.992	14	0747	3.491	14	0746	4.156	14	0746	4.361	14	0745	4.404	14	0745	4.450	14	0744	4.481
14	0809	2.857	14	0808	2.990	14	0807	3.487	14	0806	4.144	14	0805	4.366	14	0804	4.400	14	0803	4.451	14	0802	4.480
15	0019	2.897	15	0018	3.009	15	0017	3.515	15	0016	4.176	15	0015	4.391	15	0015	4.420	15	0014	4.486	15	0013	4.515
15	0035	2.880	15	0035	3.002	15	0034	3.505	15	0033	4.164	15	0032	4.383	15	0032	4.418	15	0031	4.474	15	0030	4.503
15	0051	2.885	15	0050	2.999	15	0050	3.500	15	0049	4.177	15	0048	4.384	15	0047	4.422	15	0047	4.464	15	0046	4.498
15	0109	2.870	15	0108	3.004	15	0107	3.505	15	0106	4.171	15	0105	4.386	15	0105	4.419	15	0104	4.465	15	0103	4.494
15	0128	2.851	15	0127	2.972	15	0126	3.466	15	0125	4.139	15	0124	4.345	15	0124	4.383	15	0123	4.441	15	0122	4.460
15	0145	2.840	15	0144	2.967	15	0143	3.466	15	0142	4.137	15	0142	4.345	15	0141	4.385	15	0140	4.434	15	0139	4.465
15	0203	2.831	15	0202	2.966	16	0201	3.460	15	0200	4.132	15	0159	4.350	15	0159	4.387	15	0158	4.434	15	0157	4.473
15	0218	2.821	15	0217	2.960	15	0217	3.453	15	0216	4.124	15	0215	4.340	15	0214	4.376	15	0214	4.430	15	0213	4.464
15	0234	2.811	15	0234	2.947	15	0233	3.439	15	0232	4.114	15	0231	4.327	15	0230	4.361	15	0230	4.411	15	0229	4.458
15	0251	2.837	15	0250	2.945	15	0249	3.447	15	0248	4.109	15	0247	4.322	15	0247	4.366	15	0246	4.418	15	0245	4.451
15	0308	2.812	15	0307	2.942	15	0306	3.435	15	0305	4.109	15	0304	4.319	15	0304	4.355	15	0303	4.416	15	0302	4.444
15	0324	2.806	15	0323	2.932	15	0322	3.426	15	0322	4.097	15	0321	4.311	15	0320	4.343	15	0319	4.397	15	0318	4.434
15	0342	2.809	15	0341	2.918	15	0340	3.422	15	0339	4.088	15	0339	4.300	15	0338	4.338	15	0337	4.393	15	0336	4.431
15	0358	2.800	15	0357	2.915	15	0356	3.424	15	0355	4.088	15	0355	4.310	15	0354	4.337	15	0353	4.387	15	0352	4.418
15	0414	2.802	15	0413	2.907	15	0412	3.416	15	0412	4.085	15	0411	4.299	15	0410	4.332	15	0409	4.381	15	0408	4.413
15	0431	2.794	15	0430	2.906	15	0429	3.421	15	0428	4.085	15	0427	4.300	15	0427	4.335	15	0426	4.387	15	0425	4.419
15	0447	2.793	15	0446	2.913	15	0445	3.416	15	0445	4.083	15	0444	4.299	15	0443	4.337	15	0442	4.391	15	0441	4.407
15	0503	2.786	15	0502	2.905	15	0501	3.413	15	0500	4.081	15	0500	4.294	15	0459	4.331	15	0458	4.384	15	0457	4.417
15	0521	2.777	15	0520	2.893	15	0519	3.409	15	0518	4.072	15	0518	4.287	15	0517	4.326	15	0516	4.377	15	0515	4.418
15	0539	2.784	15	0538	2.901	15	0537	3.410	15	0535	4.070	15	0535	4.290	15	0534	4.327	15	0533	4.382	15	0532	4.415
15	0557	2.788	15	0556	2.912	15	0555	3.418	15	0554	4.079	15	0553	4.296	15	0552	4.334	15	0551	4.386	15	0550	4.425
15	0613	2.783	15	0612	2.913	15	0611	3.418	15	0610	4.081	15	0610	4.294	15	0609	4.334	15	0608	4.387	15	0607	4.424
15	0632	2.785	15	0631	2.919	15	0631	3.434	15	0630	4.091	15	0629	4.300	15	0628	4.337	15	0627	4.399	15	0627	4.430
15	0649	2.810	15	0648	2.935	15	0647	3.445	15	0646	4.101	15	0645	4.310	15	0645	4.350	15	0644	4.396	15	0643	4.439
15	0705	2.802	15	0704	2.943	15	0703	3.430	15	0703	4.101	15	0702	4.313	15	0701	4.345	15	0700	4.400	15	0659	4.439

TABLE 3 (continued)

1968 Jan		33	1968 Jan		35	1968 Jan		37	1968 Jan		40	1968 Jan		45	1968 Jan		52	1968 Jan		58	1968 Jan		63
15	0723	2.809	15	0722	2.947	15	0722	3.447	15	0721	4.117	15	0720	4.330	15	0719	4.358	15	0718	4.485	15	0718	4.530
15	0740	2.822	15	0739	2.961	15	0739	3.458	15	0738	4.126	15	0737	4.327	15	0736	4.361	15	0735	4.411	15	0735	4.446
15	0800	2.841	15	0800	2.961	15	0759	3.463	15	0758	4.126	15	0757	4.335	15	0756	4.366	15	0755	4.414	15	0754	4.445
15	0816	2.845	15	0815	2.976	15	0814	3.474	15	0814	4.133	15	0813	4.339	15	0812	4.377	15	0811	4.425	15	0810	4.451
16	0010	2.802	16	0009	2.928	16	0008	3.431	16	0007	4.087	16	0006	4.303	16	0005	4.331	16	0004	4.389	16	0004	4.411
16	0026	2.812	16	0026	2.935	16	0024	3.434	16	0024	4.106	16	0023	4.221	16	0022	4.354	16	0021	4.406	16	0020	4.428
16	0045	2.787	16	0044	2.905	16	0043	3.437	16	0042	4.108	16	0041	4.220	16	0041	4.356	16	0040	4.404	16	0039	4.437
16	0101	2.813	16	0100	2.945	16	0059	3.439	16	0058	4.115	16	0057	4.325	16	0056	4.363	16	0056	4.410	16	0055	4.448
16	0124	2.829	16	0123	2.939	16	0122	3.448	16	0121	4.117	16	0120	4.329	16	0119	4.366	16	0118	4.419	16	0117	4.454
16	0140	2.838	16	0139	2.944	16	0138	3.456	16	0137	4.127	16	0137	4.340	16	0136	4.369	16	0135	4.424	16	0134	4.458
16	0158	2.855	16	0157	2.964	16	0157	3.473	16	0156	4.145	16	0155	4.358	16	0154	4.389	16	0153	4.438	16	0152	4.468
16	0215	2.854	16	0214	2.963	16	0214	3.471	16	0213	4.137	16	0212	4.351	16	0211	4.383	16	0210	4.439	16	0210	4.477
16	0234	2.869	16	0233	2.991	16	0232	3.482	16	0231	4.155	16	0231	4.364	16	0230	4.404	16	0229	4.455	16	0228	4.480
16	0251	2.874	16	0251	2.999	16	0250	3.491	16	0249	4.160	16	0248	4.371	16	0247	4.408	16	0246	4.457	16	0245	4.481
16	0308	2.883	16	0307	3.010	16	0307	3.501	16	0306	4.171	16	0305	4.380	16	0304	4.415	16	0303	4.465	16	0302	4.503
16	0326	2.904	16	0325	3.035	16	0324	3.528	16	0323	4.193	16	0322	4.404	16	0322	4.442	16	0321	4.492	16	0320	4.526
16	0354	2.921	16	0353	3.046	16	0352	3.538	16	0351	4.206	16	0350	4.417	16	0350	4.452	16	0349	4.506	16	0348	4.543
16	0411	2.944	16	0410	3.072	16	0409	3.563	16	0408	4.228	16	0407	4.438	16	0406	4.478	16	0406	4.532	16	0405	4.559
16	0428	2.963	16	0427	3.095	16	0426	3.580	16	0425	4.248	16	0425	4.459	16	0424	4.494	16	0423	4.547	16	0422	4.588
16	0445	2.995	16	0445	3.120	16	0443	3.611	16	0442	4.276	16	0441	4.485	16	0441	4.522	16	0440	4.575	16	0439	4.608
16	0503	3.017	16	0502	3.143	16	0501	3.646	16	0459	4.308	16	0459	4.515	16	0458	4.542	16	0457	4.605	16	0456	4.639
16	0522	3.055	16	0521	3.175	16	0520	3.672	16	0519	4.336	16	0518	4.552	16	0517	4.589	16	0517	4.639	16	0516	4.682
16	0541	3.090	16	0540	3.210	16	0539	3.708	16	0538	4.377	16	0537	4.583	16	0536	4.618	16	0535	4.668	16	0535	4.705
16	0557	3.130	16	0556	3.251	16	0555	3.749	16	0554	4.414	16	0553	4.625	16	0552	4.657	16	0551	4.712	16	0551	4.747
16	0613	3.154	16	0612	3.280	16	0612	3.779	16	0611	4.441	16	0610	4.651	16	0609	4.685	16	0608	4.735	16	0607	4.778
16	0634	3.198	16	0634	3.331	16	0633	3.823	16	0632	4.491	16	0631	4.696	16	0630	4.735	16	0629	4.781	16	0628	4.811
16	0659	3.227	16	0659	3.433	16	0657	3.875	16	0656	4.521	16	0655	4.731	16	0654	4.767	16	0653	4.819	16	0651	4.841
17	0009	3.382	17	0009	3.484	17	0008	3.981	17	0007	4.633	17	0006	4.833	17	0005	4.859	17	0004	4.911	17	0003	4.935
17	0026	3.412	17	0026	3.514	17	0025	4.009	17	0024	4.652	17	0023	4.858	17	0022	4.888	17	0021	4.934	17	0020	4.969
17	0045	3.400	17	0044	3.518	17	0043	4.008	17	0042	4.654	17	0041	4.858	17	0040	4.888	17	0039	4.933	17	0038	4.977
17	0101	3.391	17	0101	3.517	17	0100	4.003	17	0059	4.650	17	0058	4.853	17	0057	4.886	17	0056	4.935	17	0055	4.969
17	0119	3.361	17	0118	3.485	17	0117	3.973	17	0116	4.616	17	0115	4.827	17	0114	4.861	17	0114	4.909	17	0113	4.952
17	0138	3.326	17	0137	3.450	17	0136	3.934	17	0135	4.587	17	0135	4.751	17	0134	4.829	17	0133	4.875	17	0132	4.924
17	0159	3.280	17	0158	3.400	17	0157	3.884	17	0157	4.544	17	0156	4.801	17	0155	4.777	17	0154	4.831	17	0152	4.862
17	0216	3.239	17	0215	3.355	17	0214	3.845	17	0214	4.498	17	0213	4.702	17	0212	4.730	17	0211	4.786	17	0210	4.822
17	0235	3.187	17	0234	3.304	17	0233	3.789	17	0232	4.437	17	0232	4.648	17	0231	4.672	17	0229	4.731	17	0229	4.773
17	0253	3.146	17	0252	3.260	17	0251	3.747	17	0250	4.404	17	0249	4.613	17	0248	4.646	17	0248	4.700	17	0247	4.717
17	0310	3.086	17	0309	3.200	17	0308	3.691	17	0307	4.349	17	0307	4.560	17	0306	4.593	17	0305	4.647	17	0304	4.673
17	0328	3.038	17	0327	3.155	17	0327	3.652	17	0326	4.312	17	0325	4.516	17	0324	4.548	17	0323	4.607	17	0322	4.637
17	0348	3.000	17	0347	3.112	17	0346	3.618	17	0345	4.273	17	0344	4.475	17	0343	4.517	17	0342	4.569	17	0341	4.597
17	0404	2.959	17	0403	3.068	17	0402	3.573	17	0401	4.235	17	0401	4.447	17	0400	4.484	17	0359	4.542	17	0358	4.570
17	0422	2.924	17	0421	3.054	17	0420	3.552	17	0419	4.215	17	0418	4.427	17	0417	4.461	17	0416	4.517	17	0415	4.544
17	0439	2.906	17	0438	3.027	17	0437	3.529	17	0436	4.192	17	0436	4.402	17	0435	4.440	17	0434	4.496	17	0433	4.525
17	0502	2.884	17	0501	3.015	17	0500	3.510	17	0500	4.177	17	0459	4.387	17	0458	4.428	17	0457	4.479	17	0456	4.525
17	0526	2.874	17	0525	3.005	17	0524	3.492	17	0523	4.166	17	0522	4.375	17	0521	4.417	17	0520	4.466	17	0519	4.510
17	0546	2.867	17	0545	2.981	17	0544	3.487	17	0543	4.147	17	0542	4.359	17	0541	4.396	17	0540	4.458	17	0539	4.475
17	0605	2.856	17	0604	2.980	17	0603	3.475	17	0602	4.145	17	0601	4.356	17	0600	4.394	17	0600	4.443	17	0559	4.474
17	0649	2.824	17	0648	2.939	17	0647	3.441	17	0647	4.112	17	0646	4.325	17	0645	4.357	17	0644	4.416	17	0643	4.448
17	0709	2.817	17	0708	2.937	17	0707	3.437	17	0705	4.106	17	0705	4.315	17	0704	4.355	17	0703	4.410	17	0702	4.448
17	0727	2.812	17	0726	2.946	17	0725	3.441	17	0724	4.113	17	0723	4.327	17	0722	4.367	17	0721	4.412	17	0721	4.451

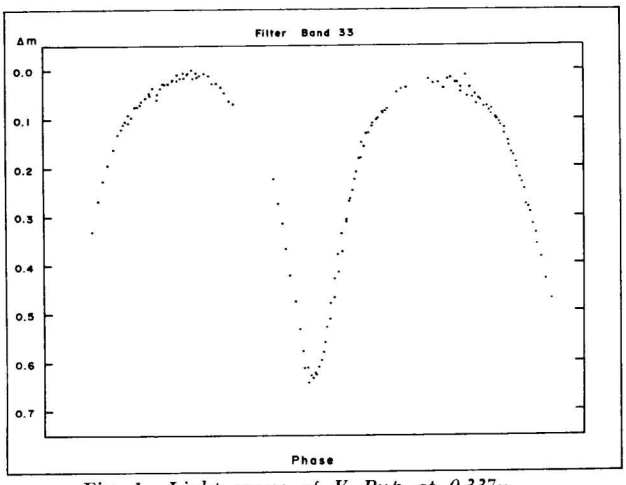

Fig. 1.—*Light curve of V Pup at 0.337μ.*

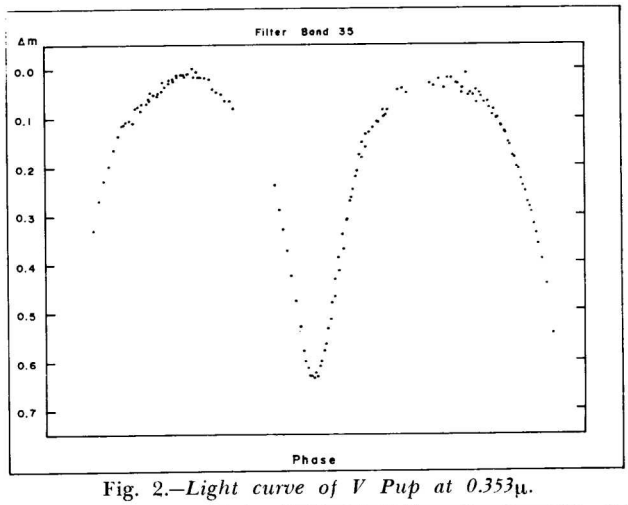

Fig. 2.—*Light curve of V Pup at 0.353μ.*

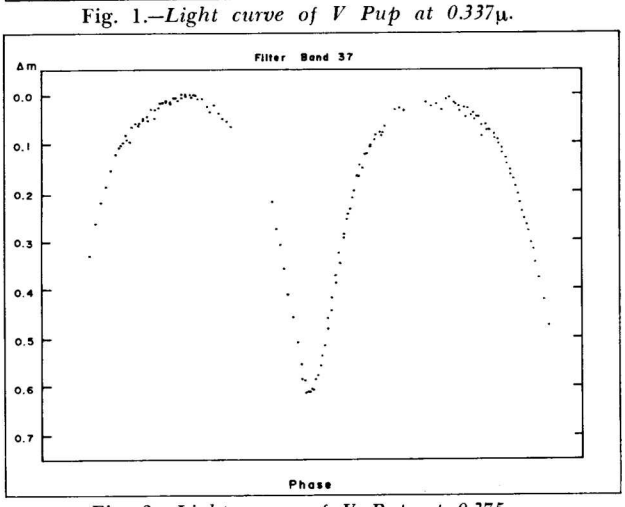

Fig. 3.—*Light curve of V Pup at 0.375μ.*

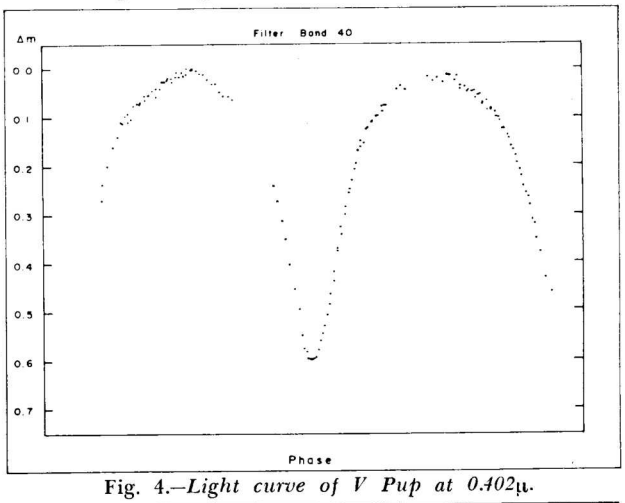

Fig. 4.—*Light curve of V Pup at 0.402μ.*

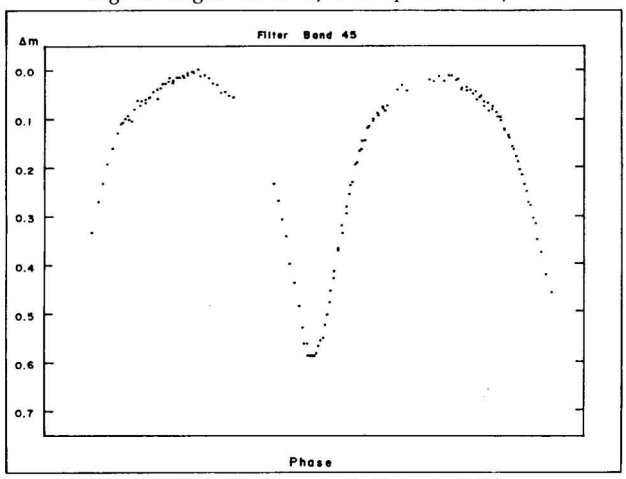

Fig. 5.—*Light curve of V Pup at 0.459μ.*

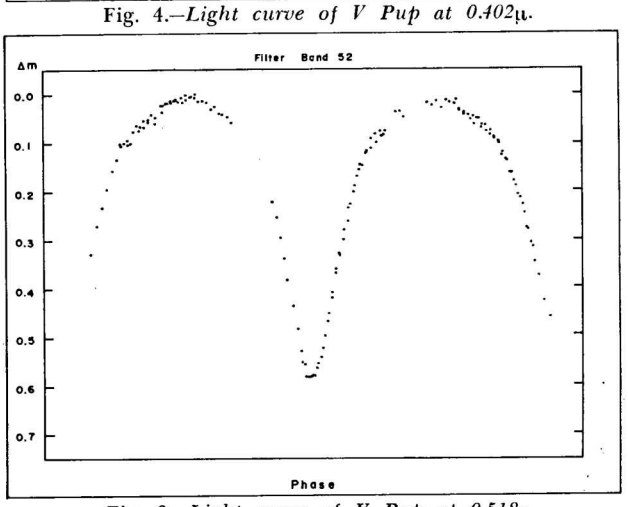

Fig. 6.—*Light curve of V Pup at 0.518μ.*

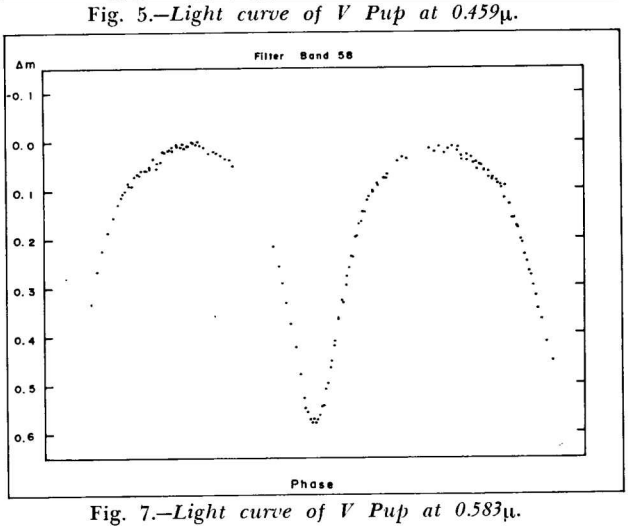

Fig. 7.—*Light curve of V Pup at 0.583μ.*

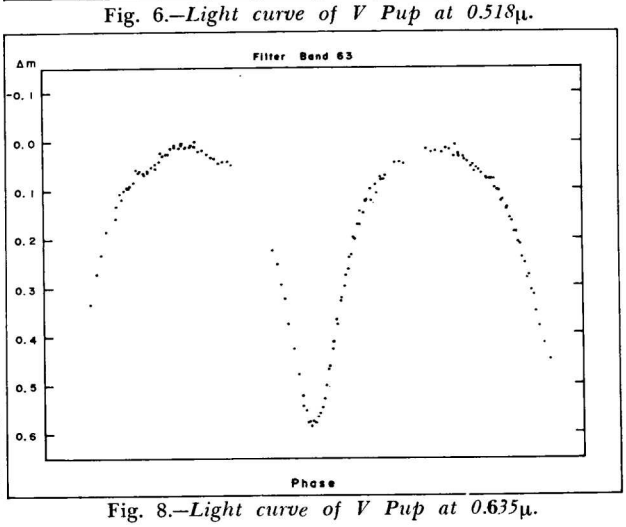

Fig. 8.—*Light curve of V Pup at 0.635μ.*

The observational data obtained for V Puppis is given in Table 3. The odd columns of this Table contain the universal time: the first two figures, the day, the second two figures the hour, and the last two figures, the minute, of the observation made with the filter indicated in the next column. The even columns contain the *33, 35, 37, 40, 45, 52, 58,* and *63* magnitudes, respectively. For each measurement of V Pup at least one observation of a comparison or a standard star was secured. The internal probable error of a single observation of the magnitudes listed in Table 3 is ± 0.008 mag, approximately.

For an adopted period of 1.4544877 days, the heliocentric phase can be computed from the time given in Table 3. This phase *versus* light variability is illustrated in Figures 1-8 which are light curves of high precision. Thus, in order to improve the known elements of this eclipsing binary system perhaps it would be necessary to resort to a more elaborate study than those by earlier observers (cf. Hogg 1946). Therefore the detailed analysis will be reported later.

Either from the data given in Table 3 or from the light curves shown in Fig. 1-8 we notice that the observed amplitude depends on the spectral region in which the observations are made. To the shortest wavelength corresponds the largest amplitude. The numerical values of these amplitudes are contained in Table 4 with the corresponding effective wavelength of the filters used in this study.

TABLE 4

Amplitude of Primary Minimum of V Puppis

$\lambda(\mu)$	*mag.*
0.337	0.62
0.353	0.61
0.375	0.60
0.402	0.59
0.459	0.58
0.518	0.57
0.583	0.57
0.635	0.57

The difference in the observed amplitude of the light variation at primary minimum given by Roberts (1903), 0.64 mag; van Gent (1939), 0.60 mag; and Hogg (1946), 0.56 mag could be the result of the difference in effective wavelength of their observations (visual, photovisual and photoelectric, respectively). However Hogg's value is smaller than the other two and probably the former corresponds to the "blue" and the latter to the "yellow".

The intermediate band photometry presented here can be used to derive temperatures and luminosities for the system V Pup. Its spectrum can be described as B1 + B3. The data given in Table 3 is in agreement with this classification. Using the estimates made by Mendoza (1971*a*) of the absolute visual magnitude, we find at primary minimum M_v *(min)* = −4.5 and at maximum M_v *(max)* = −4.8, and combining these with the measured radial velocities (cf. Frieboes 1962) and the above photometry it is possible to obtain dimensions masses, etc. of the components.

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