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OTHER MAXIMUM FOR THE PULSATING STAR
V1719 Cyg (HD 200925)

HD 200925 (=V1719 Cyg) was discovered as a new short period variable star by Gonzalez-Bedolla and Pena (1979) in a search for variability in metallic-line stars (Am). In those data, as Dupuy (1981) first suggested, the observations during the night of September 26-27, 1978, actually suffered from an artificial zero-point displacement of 0.08 mag. (due to the particular procedure of reduction). The pulsational characteristic for this star was first suggested by Payne-Gaposchkin (1979) (as δ Scuti star) and was first clearly established by Imbert (1980). However, at present the real nature of this star is somewhat confused, viz. δ Scuti, RRc, dwarf Cepheid or Am / Fm pulsating star (Joner and Johnson (1985) and Johnson and Joner (1986)). The radial velocity curve for HD 200925 was obtained by Imbert (1980) and Johnson and Joner (1986) obtained the first provisional physical parameters for this star. UVB photometry for HD 200925 was obtained by Poretti (1984) and uvby β photometry by Joner and Johnson (1985) and Johnson and Joner (1986). The amplitude of the light curve varies from 0.36 to 0.31 mag. in V, from 0.50 to 0.42 in B and from 0.49 to 0.40 in U according to Poretti (1984).

HD 200925 presents small changes in the period from one cycle to another. This suggests that the star is multiperiodic; Poretti (1984) and Mantegazza and Poretti (1986) proposed double mode pulsation in the first and second radial overtones with $P_1 = 0^d.267298$ and $P_2 = 0^d.2138$.

It is known that the study of the secular period variation is an important contribution to the understanding of the nature and state of evolution of the stars. For this star, Poretti (1984, Table IV) lists the maxima known up to 1984 for HD 200925, hence, with the aim of completing this Table, we present in this paper other photometric maximum that has not been published yet.

HD 200925 was observed in October 6, 1980, in Johnson's V band with the 33-inch telescope of San Pedro Martir Observatory, Baja California, Mexico, a refrigerated 1P21 photomultiplier was used. The comparison stars were the same

Table I. Differential photometry of HD 200925 in the V Filter

HJD 2444518.0+	ΔV	HJD	ΔV	HJD	ΔV	HJD	ΔV
.599	-0.129	.674	-0.009	.744	+0.191	.806	-0.059
.601	-0.129	.676	-0.006	.746	+0.191	.808	-0.062
.603	-0.127	.677	-0.001	.748	+0.176	.810	-0.069
.605	-0.124	.679	+0.001	.750	+0.176	.813	-0.074
.608	-0.114	.681	+0.009	.751	+0.174	.814	-0.089
.610	-0.114	.683	+0.014	.753	+0.169	.816	-0.084
.612	-0.114	.685	+0.014	.755	+0.156	.817	-0.089
.615	-0.114	.687	+0.036	.757	+0.141	.819	-0.092
.617	-0.109	.690	+0.046	.758	+0.146	.822	-0.104
.619	-0.104	.692	+0.056	.760	+0.136	.824	-0.114
.621	-0.102	.693	+0.066	.763	+0.134	.825	-0.114
.623	-0.114	.695	+0.081	.764	+0.121	.827	-0.117
.624	-0.089	.697	+0.081	.765	+0.114	.829	-0.114
.626	-0.097	.699	+0.096	.767	+0.101	.831	-0.127
.628	-0.084	.701	+0.106	.769	+0.096	.833	-0.137
.631	-0.089	.703	+0.121	.771	+0.094	.835	-0.137
.633	-0.082	.706	+0.126	.772	+0.084	.837	-0.139
.635	-0.084	.707	+0.141	.774	+0.076	.838	-0.139
.637	-0.067	.709	+0.149	.776	+0.066	.840	-0.144
.639	-0.064	.711	+0.159	.777	+0.064	.842	-0.147
.641	-0.064	.713	+0.166	.779	+0.051	.843	-0.147
.643	-0.064	.715	+0.179	.781	+0.046	.845	-0.147
.645	-0.057	.717	+0.181	.783	+0.041	.847	-0.147
.646	-0.054	.719	+0.196	.784	+0.029	.848	-0.152
.649	-0.047	.722	+0.199	.785	+0.026	.850	-0.159
.651	-0.057	.724	+0.201	.788	+0.024	.851	-0.147
.653	-0.032	.726	+0.204	.789	+0.011	.854	-0.154
.656	-0.044	.727	+0.211	.790	-0.012	.855	-0.144
.658	-0.039	.729	+0.214	.792	-0.006	.857	-0.149
.660	-0.029	.731	+0.216	.794	-0.009	.858	-0.139
.662	-0.042	.733	+0.214	.796	-0.012	.860	-0.144
.644	-0.024	.735	+0.211	.798	-0.024	.861	-0.147
.666	-0.019	.737	+0.211	.799	-0.039	.863	-0.137
.667	-0.014	.739	+0.211	.801	-0.037	.864	-0.137
.669	-0.012	.740	+0.199	.803	-0.054	.868	-0.134
.672	-0.009	.742	+0.201	.805	-0.054		

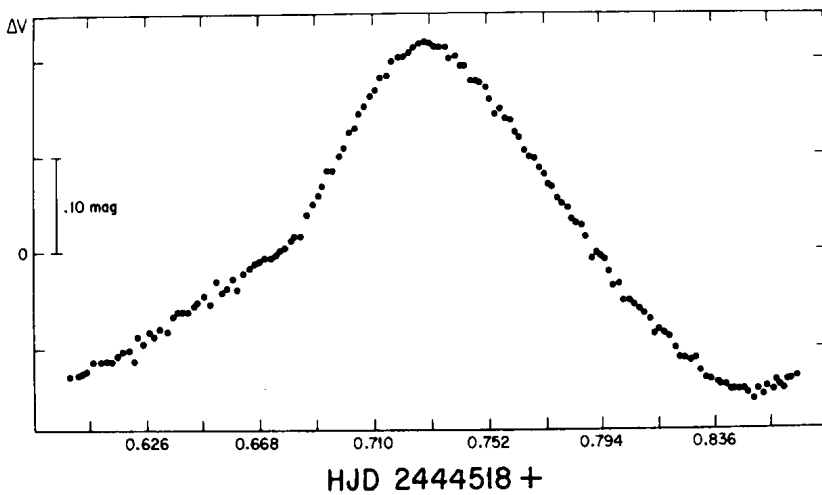


Figure 1. Differential photometry of HD 200925 in the V filter.

as in the original paper (HD 200926 and HD 200739), these stars have a high photometric constancy (Johnson and Joner 1986, Gonzalez et al. 1980), the observational sequence was C1, V, C2, V, C1, ... followed uninterruptedly whole night, with an average interval between successive observations of the variable star being 3 minutes. Each observation consisted of 5 integrations of 10 seconds of the star followed by one 10-second integration of the sky.

Table I shows the differential photometry obtained for HD 200925 in the V filter, the accuracy of each observation is better than 0.003 mag., time is given in Heliocentric Julian dates, and its precision is 0.001 day, these values are shown plotted in Figure 1, where the photometric maximum is given as follows:

$$T_{\max} = \text{HJD } 2444518.731$$

The classical "bumps" observed on the ascending branch of the light curve of HD 200925 are also seen in Figure 1 of this paper.

Regrettably, for the size of the light curve we cannot assign with assurance time for the photometric minimum, because the observations were made after the minimum, and towards the end of our observations the photometric minimum is not well defined, either, and the scatter of the data is higher than for the rest of the observations. This may be caused by the relative increase of the air mass of these observations with respect to the rest of the

light curve, hence, we cannot assign with assurance the correct period and amplitude based on this light curve. In any case, the amplitude of this light curve seems to be in accordance with the range of amplitude variation (0.36-0.31 mag.) mentioned for this star by Poretti (1984).

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