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UBV PHOTOMETRY OF VV CEPHEI NEAR INGRESS

UBV photoelectric photometry was obtained of the eclipsing binary star VV Cephei near the time of the beginning of primary eclipse (Wright 1975; Spear 1976). The data were obtained at the No.4 0.4-m telescope of the Kitt Peak National Observatory (KPNO). A pulse counting photometer, including a 1P21 photomultiplier and standard UBV filters (KPNO Nos: V,no.232; B,no.233; U, no.315; plus red leak sandwich), together with UBV standards chosen from Johnson (1963) were used to place the observations on the UBV photometric system.

Data were acquired on four nights. The sixteen differential observations are tabulated in Table I. The heliocentric Julian Days are accurate to ± 0.00005 day. The star 20 Cephei was used as the comparison star. Its average magnitude and color indices, from eight observations, were:
 $\underline{V} = 5.268 \pm 0.009$; $(\underline{B}-\underline{V}) = +1.420 \pm 0.006$; and $(\underline{U}-\underline{B}) = +1.785 \pm 0.006$.
The errors are probable errors of a single observation.

The data in Table I indicate no change in V over the four day interval. Little change occurred in $(\underline{B}-\underline{V})$ too. The $(\underline{U}-\underline{B})$ color though was steadily becoming more red as the days passed.

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Table I

UBV Observations of VV Cephei

JD ₀	ΔV	$\Delta (B-V)$	$\Delta (U-B)$
2443000.0+			
113.60080	-0.164	+0.532	-0.363
113.60874	-0.163	0.535	-0.368
113.66399	-0.161	0.542	-0.353
113.67065	-0.168	0.559	-0.364
113.73245	-0.165	0.544	-0.341
113.73937	-0.174	0.549	-0.342
114.59460	-0.156	0.561	-0.301
114.60221	-0.159	0.580	-0.293
115.59477	-0.162	0.564	-0.254
115.60086	-0.164	0.564	-0.252
115.65021	-0.164	0.557	-0.240
115.65595	-0.166	0.565	-0.257
115.73958	-0.166	0.552	-0.213
115.74613	-0.160	0.559	-0.234
116.58975	-0.170	0.563	-0.266
116.59551	-0.165	0.562	-0.263

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