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SHORT PERIOD VARIABILITY OF HD 33474

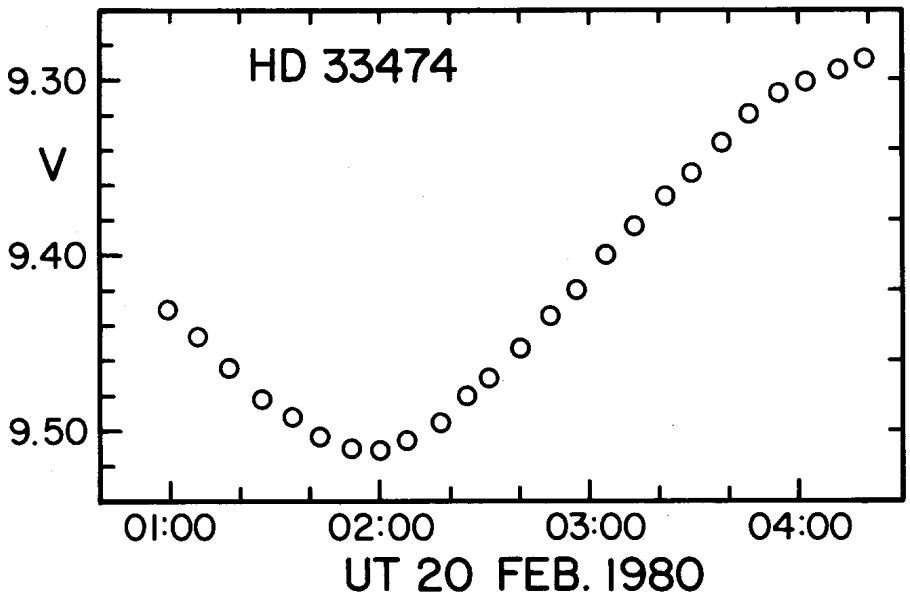
Isolated observations of HD 33474, listed in the table, spread over several years indicate a small range, short period variation. The star was monitored for about three and a half hours on 20 Feb 1980 with the result shown in the Figure. The spectral classification of F8 III (Przybylski and Kennedy 1965) indicates a possible ultrashort period cepheid (USPC) but the mean indices in Table I give $[M_1] = 0.235$, $[C_1] = 0.430$ and $M_V = +3.6$ mag, which are consistent with the classification of

Table I

Observations of HD 33474

V	b-y	$[M_1]$	$[C_1]$	β	Date
$9^m.42$	$0^m.296$	$0^m.153$	$0^m.492$		11 Dec 1975
9.43	0.272	0.164	0.463		12 Dec 1975
9.52	0.304	0.137	0.493		6 Dec 1979
9.29	0.270	0.157	0.494	2.656	4 Jan 1980
9.51	0.296	0.140	0.491	2.650	14 Jan 1980
9.37	0.289	0.143	0.491	2.662	2 Feb 1980
mean	0.288	0.149	0.487	2.656	

F5 V by Houk and Cowley (1975). The star is redder and fainter than any known USPC (Eggen 1979). The value of $[M_1]$ indicates a metal abundance near the solar value. The star is more probably a contact binary, with a period near 0.4 days and very similar to AW UMa (See IBVS 1176), but of even smaller amplitude. These binaries usually contain the light of two equal components



(Eggen 1976), giving a modulus for HD 33474 of 6.55 mag and a space motion of (U, V, W) = (+79, -39, +48)km/sec from the proper motion of (μ_α, μ_δ) = (+0".076, +0".072) on the FK4 system and a radial velocity of +6.8 km/sec. The space motion and metal abundance indicate a member of the ε Ind group; the motion of ε Ind is (U, V, W) = (+79, -39, +3) km/sec.

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