GSC 8527-373: A NEW DELTA SCUTI VARIABLE

REA, ROBERT D.

Regent Lane Observatory, Nelson, New Zealand, email: reamarsh@ihug.co.nz

Name of the object:
GSC 8527-373

Equatorial coordinates:	Equinox:
R.A.= $05^h35^m12\overset{s}{.}1$ DEC.= $-58°01'08\overset{''}{.}3$	J2000

Observatory and telescope:
Regent Lane Observatory, 0.35-m Schmidt–Cassegrain telescope

Detector:	Santa Barbara Instruments Group ST6B

Filter(s):	None, roughly R

Comparison star(s):	GSC 8527-378

Transformed to a standard system:	No

Availability of the data:
Upon request. Data are available for the following nights: 6–9, 12, 21, and 26 December 2000; 3, 13, 17, 26 January, and 7–8 February 2001

| Remarks: |
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| The variability of GSC 8527-373 was first recognized while reducing data obtained on the night of February 7, 2001 while monitoring the CV variable TW Pictoris as part of the Center for Backyard Astrophysics program of investigating CV stars. Poor positioning of the telescope resulted in GSC 8527-373 being chosen as a check star, and it was then noticed that it was varying. Since TW Pictoris had been monitored since December 6, 2000, there were a large number of nights with data on the new variable. The best data available were from the first nights that the program on TW Pictoris was commenced. Analysis of the data yields an ephemeris of $$\text{HJD } 2451885.00015 + 0\overset{d}{.}0796766 \times E. \tag{1}$$ Since the amplitude of GSC 8527-373 is less than $0\overset{m}{.}2$ as measured in the unfiltered camera-telescope system, and the period is less than 2 hours, this would suggest that the star is probably a δ Scuti type variable. |
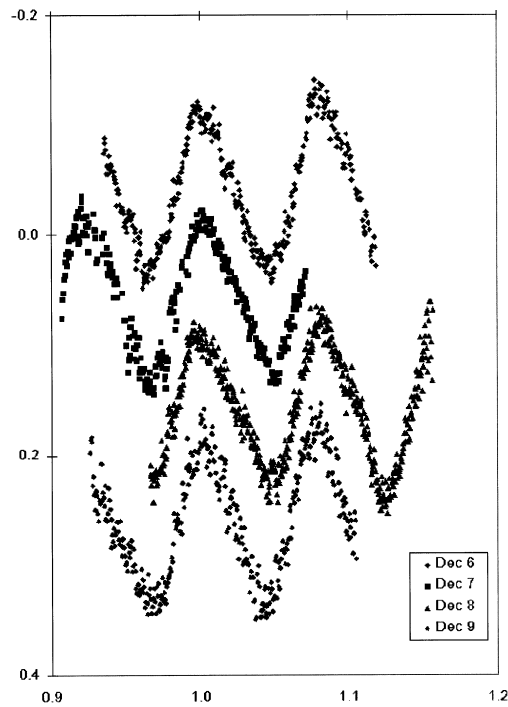
Figure 1. Unfiltered CCD measures on the nights of December 6–9. These have been fitted to ephemeris (1). The night of December 6 is shown at the actual Variable−Comparison values, the remaining nights are offset by $0^{m}1$, $0^{m}2$ and $0^{m}3$, respectively. The time scale is in fractional JD but the daily starting points have been adjusted to fit the ephemeris