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TWO DELTA SCUTI STARS IN THE PLEIADES

Observations of two Delta Scuti suspects in the Pleiades cluster were obtained using the 40-cm reflector and a dry ice cooled IP21 at the Grundy Observatory. An OG-4 (4mm) filter approximates the V magnitude. Observations were made differentially between variable and comparison, and extinction was removed. Light curves were analyzed using a periodogram technique after Gray and Desikachary (1973, Ap.J.181, 523). Stars are identified by TR numbers (Trumpler 1921, Lick Obs.Bull.10,110).

Breger (1972, Ap.J.176,367) reported TR 51 a possible Delta Scuti star with a period of about 0.024 ± 0.002 days and an amplitude of about 0.01 magnitudes. TR 51 was observed on one night with TR 121 as a comparison star. Periodogram analysis of the data gives a period of 0.0205 days with an amplitude of 0.01 magnitudes peak to peak. Subtraction of this peak and its side lobes reveals a second maximum at a period of 0.017 days with an amplitude of about 0.007 magnitudes peak to peak.

Breger also reported TR 390 as a possible Delta Scuti star with a period of 0.049 ± 0.004 days and an amplitude of 0.01 magnitudes. Observations of TR 390 were obtained on one night using TR 365 as a comparison star. Periodogram analysis of the data reveals a period of 0.047 days and an amplitude of 0.011 magnitudes peak to peak, in good agreement with Breger. Removal of this variation from the periodogram reveals a second peak at 0.070 days with a peak to peak amplitude of about 0.006 magnitudes.

Beat phenomenon is likely in both TR 51 and TR 390. Further observations are needed to confirm periods and amplitudes.

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