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PHOTOELECTRIC OBSERVATIONS OF δ^2 Tau (HR 1412)

The Delta Scuti star δ^2 Tau was found to be variable by Horan (1977, 1979). This star is a member of Hyades cluster, and it is a spectroscopic binary with high eccentricity ($P = 140.7^d$, $e = 0.75$).

Photoelectric observations of δ^2 Tau were made during the period Sept. 15, 1981 - Jan. 31, 1982 at the 102 cm reflector of Merate Observatory, using a standard B filter, an ice refrigerated Lallemand photomultiplier with the integration time set at 15 s, and a semiautomatic device for setting alternatively the variable and the comparison star. The comparison and the check stars were HR 1422 and HR 1427, respectively. In order to guarantee the safety of our results, the check star was measured with the same frequency as the variable.

We have obtained a total of 1412 measurements distributed over twenty nights. The amplitude of the light curve of δ^2 Tau is variable, and the maximum amplitude observed is about 0.04 mag.

A preliminary data analysis has given the following results:

- 1) there are probably four frequencies: 13.2218, 12.3715, 16.0200 and 12.0372 c/d (in order of decreasing amplitude);
- 2) the profile of peaks of power spectrum is broad and seems to show a splitting in two components;
- 3) there is a light variation with an amplitude of about 0.015 mag on a time scale of several tens of days, which must be ascribed to the variable.

The results of the complete data analysis will be published elsewhere.

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References:

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