

[P12-4] The New Variables in the Open Cluster NGC 581

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Through the time-series CCD V photometry to searching for low-amplitude pulsating stars in the Open Cluster NGC 581. The time-series photometry were made during 2003 October 31/November 1, and 2004 December 26/31, the 1M telescope at Mt. Lemmon Optical Astronomy Observatory (LOAO) equipped with KODAK KAF-4301E 2048 CCD camera was used. We applied the ensemble normalization technique (Gilliland & Brown 1988 Kim et al. 1999) to standardize the instrumental magnitudes of all stars in the time-series CCD frames. We examined light variation of 3900 stars and found seven eclipsing variables and 13 δ Sct type variables. The three of them are previously known variables.

[P12-5] Number Estimation of delta Scuti Type Variables

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Delta Scuti stars are pulsating variables located in the classical instability strip on and just above the main sequence with spectral types from A2 to F2. Delta Scuti stars are relatively less studied variables, and the number frequency of this type of variables is almost totally unknown. The ROTSE Survey for Variables Catalog 1 (RSV1) originally identified 91 delta Scuti stars, but their number frequency is still not readily known. Here, we calculate the number of stars that are expected to fall in the delta Scuti area of the H-R diagram for the magnitude range and sky coverage of the RSV1. By comparing this number to the actual, observed number of delta Scuti stars in the RSV1, we estimate the number frequency of variable stars in the delta Scuti area of the H-R diagram.