

Variability of young stars - Determination of rotational periods with the observatory Großschwabhausen

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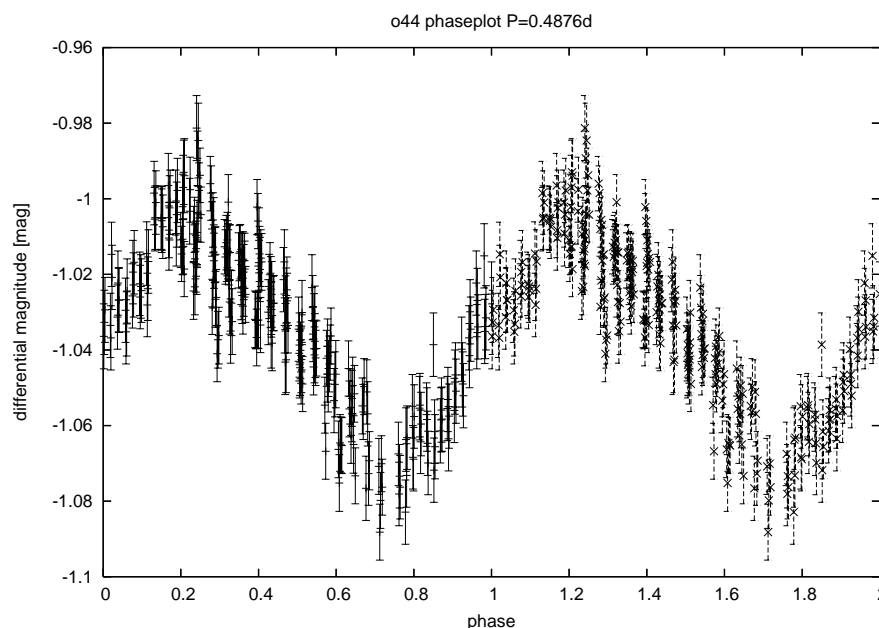
We observe in our observatory Großschwabhausen young T Tauri stars (TTs) located in the star-forming region Cepheus-Cassiopeia. These observations are made within the scope of my diploma thesis.

This project is a follow up observation to confirm or disprove the rotational periods obtained by Georg Förster during his diploma thesis in 2005. In June 2007 the observation of 14 selected targets started. The location of Cepheus and Cassiopeia, which are circumpolar constellations on the northern hemisphere, allows us doing all-year observations.

The selection of the targets was made on the basis of a paper by Tachihara, Neuhäuser, Kun (2005 A&A 437, 919-928) in which these objects were found to be TTs from 2Myr up to an age of 25 Myr.

Observations were made up to now with a 10" Cassegrain equipped with a CCD TK1024 (Tektronix) also named CTK. All of the targets have been observed in V, R and I at 18 out of 43 nights. Some nights were taken for the observation of only one or two targets to get a series of these ones, at nearly half of the nights data for only some targets exist because of unstable weather conditions, some technical problems and other projects running in Großschwabhausen. Image reduction was done with IRAF, the differential photometry with the ADA-programme "photometry" written by Christopher Broeg.

First results show, that three of them have rotational periods $P < 1d$ and only one has $P > 5d$. All other objects have periods between 1 day and 3.5 days.



To get the phasefolded lightcurve of GSC0460500170 in I-filter 270 images out of four nights were taken. The curve was folded with a period of $P=0.4876d$.