

P13b Search for T Tauri Stars in the Cepheus-Cassiopeia region

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Search for T Tauri stars has been done in the Cepheus-Cassiopeia star-forming region with Calar Alto 2.2m telescope based on the results of ROSAT X-ray all sky survey (RASS).

As a result of RASS, numerous T Tauri stars have been found away from the molecular clouds in several regions, such as Taurus, Lupus, Chamaeleon, and Orion star forming regions, many of which belong to the Gould belt. Two models have been suggested as the origin of them, stellar ejection model and star formations in small cloudlets with short-time dissipation. In order to investigate the universality of the isolated T Tauri stars, we have made follow-up T Tauri survey in Cepheus-Cassiopeia region, which is another nearby star-forming region not belonging to the Gould belt.

This region has been surveyed in ^{13}CO with 4m telescope of Nagoya University (Yonekura et al. 1997) and 188 molecular clouds have been found. This molecular cloud complex is known as a nearby star-forming region called *Cepheus flare*, and some attempts to find the young stars have been made (e.g., Kun 1998). There are, however, a lot of unknown X-ray sources detected by RASS with hard X-ray spectra, which is a typical property of the T Tauri stars. From 1238 hard X-ray RASS sources in this region, 78 unknown stars have been selected with HST GSC counterparts ($V \leq 15$ mag) within 10 arcsec separations. Many of them are located away from the molecular clouds, which might form the stars several Myr ago, but some of them are clustering and likely to be the young stars. The optical spectroscopic observations toward 47 X-ray sources have been done to detect Lithium 6708Å absorption (signatures for youth) for the purpose of revealing the nature of them. We will make a report of the results and discuss the possible nature and origin of the X-ray sources.