

Duration of star formation in Young Open Clusters

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Aim

Identify young members in the cluster.
Estimate their age and mass.
Estimate the timescale of star formation process in the cluster.
Estimate star formation rate within the timescale of cluster formation.

Method

The young pre-MS stars have excess circum-Stellar emission; This property is used to identify them in Near-Infra Red (NIR) colour colour diagram.
Ages and masses of identified PMS stars are found using stellar evolutionary models.
The mass wise and age wise distribution is analysed to obtain the star formation snap shots.

Results

13 young open clusters are studied using photometric data from WEBDA and NIR data from 2MASS.
We find the presence of multiple populations inside the cluster.
Star formation is continuous in all the clusters .
In general, Duration timescale is equal to the cluster age .
In some cases, low and high mass stars formed together, while in others their formation time differs.

