

From star clusters to field populations: survived, destroyed and migrated clusters



Contribution ID: 30

Type: not specified

Investigating the formation and dispersion of star clusters with the multi-object spectrographs MOONS and 4MOST

Monday, November 20, 2023 3:25 PM (25 minutes)

The combination of photometric and astrometric data from Gaia with parameters derived by spectroscopic surveys, like Gaia-ESO, improved our knowledge of the properties of young star clusters and our understanding of the processes leading the cluster evolution until its dispersion.

However, current datasets suffer of two main shortcomings: they are mostly based on optical observations, so we are not able to investigate the earliest stages of cluster life, when they are still embedded in molecular clouds, and spectroscopic data coming from multi-object spectrographs are usually limited to the inner and most dense part of the cluster. In this talk, I will present two spectroscopic surveys that will be carried out with the new multi-object spectrographs MOONS at the VLT and 4MOST at VISTA.

The first will gather infrared spectra of about 10 embedded young clusters to investigate their structural and kinematic properties at their earliest stages. While the 4MOST survey will observe ~100,000 candidate young stars within 500 pc selected independently from their position and kinematic to investigate the properties of young unbound stellar populations.

Primary author: SACCO, Giuseppe Germano (Istituto Nazionale di Astrofisica (INAF))

Presenter: SACCO, Giuseppe Germano (Istituto Nazionale di Astrofisica (INAF))

Session Classification: Cluster demography

Track Classification: Session 1