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Survey spettroscopiche di popolazioni stellari giovani

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“Stars do not form in isolation but in stellar systems composed of a number of siblings ranging from a few tens to several thousands. Understanding the formation and evolution of these stellar systems as well as the processes driving the evolution of stars before they arrive on the main sequence is a key question in galactic astronomy. During the last decade the combination of astrometric, photometric and spectroscopic data from the Gaia space mission and its associated ground-based surveys have lead to several progress in this field. 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.”

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

Session Classification: Cosmogonia della via lattea: da Gaia e la sua legacy ai progetti futuri (chair: M. Marconi)