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Type: Talk

Multi-wavelength and multi-disciplinary approach to the study of the emission from accretion/ejection processes in young stars with disks: combining observations, numerical models, and laboratory experiments

Tuesday 26 June 2018 12:00 (20 minutes)

A multi-band investigation of the emission from young stars with disks allows us to obtain a complete characterization of these complex systems, accounting for their accretion and outflow activity.

All the components contributing to the emission can strongly influence also the evolution of their disks and possibly the formation of exo-planetary systems.

Combining multi-wavelength observations, magnetohydrodynamical models, and laboratory experiments following a multi-disciplinary approach, we aim at a more complete characterization of young stars with accretion/ejection processes at work.

We present X-ray and optical analysis of line profiles and Doppler shift for specific objects (e.g. TW Hya) as well as in statistical samples (NGC 2264) and discuss future perspectives with next generation instruments: Athena and LSST.

In particular, LSST main characteristics will be presented in the context of the investigation of young stars as this survey will allow us to increase the number of young stars whose accretion/outflow activities can be fully characterized exploiting also the variability of these processes.

A science case for the Mini Survey and Deep Drilling Field proposals in LSST in the context of young stars will be discussed.

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