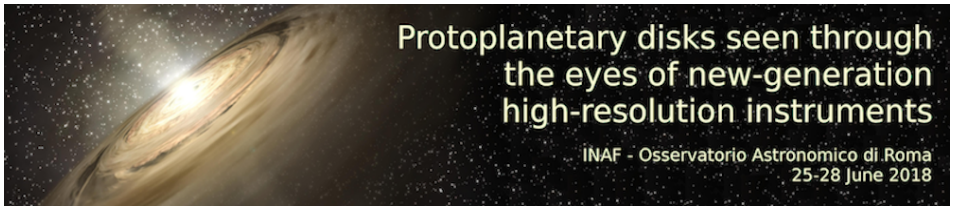

Contribution ID: **43** Type: **not specified**

Revealing the evolution of disks at 0.01-10 au from high-resolution IR spectroscopy (I)

Tuesday, 26 June 2018 16:40 (30 minutes)

I will present results from a multi-wavelength and multi-tracer campaign to observe the evolution of protoplanetary disks at 0.01-10 au at the time of exoplanet formation. The backbone of this work is the combined analysis of recent surveys of moderate-to-high-resolution spectroscopy (R ~ 700- 100,000) of molecular gas emission at infrared wavelengths (2.9-35 um), as collected from a suite of instruments on the ground and in space (VLT-CRIRES, VLT-VISIR, Spitzer-IRS, Keck-NIRSPEC, IRTF-iSHELL). I will present and discuss three major findings of this campaign, as published in a series of papers in the last few years: 1) the location and excitation of CO gas reveals the formation of disk cavities and gaps in the 0.01-10 au disk region, 2) some of these cavities show a interesting dichotomy in the distribution of gas and dust, and 3) disk chemistry evolves during formation of these cavities, with inner disks being dried-up from their water. I will discuss these discoveries in the context of the increasingly detailed picture of the evolution of exoplanet-forming disks at < 10 au.

Presenter: BANZATTI (STREAMING), Andrea

Session Classification: Protoplanetary disks (chair A. Frasca)