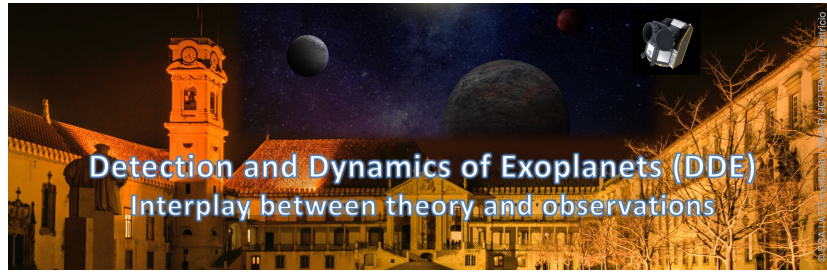


Detection and Dynamics of Exoplanets (DDE): Interplay between theory and observations



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Looking closer at PDS 70: tracing trojan dust?

Tuesday 8 July 2025 09:30 (15 minutes)

The PDS 70 system hosts the only two non-controversial protoplanets, offering a unique laboratory for planet formation studies. For instance, ALMA revealed around PDS 70 c the only circumplanetary disk ever detected. Also using ALMA data, we tentatively detected a trojan dust cloud sharing orbit with PDS 70 b. Remarkably, several authors have reported evidence for the presence of an additional inner source using different instrumentation, including VLT/SPHERE and JWST/NIRCam. While its apparent Keplerian motion has led to its classification as candidate planet d, its spectrum casts doubt on its true nature. In this talk, we will present new and deeper follow-up VLT/SPHERE observations providing new insights on the candidate, and raising alternative hypotheses that will be presented in this talk.

Presenter: BALSALOBRE-RUZA, Olga (Centro de Astrobiología (CAB))

Session Classification: Exomoons, exorings, and trojan systems