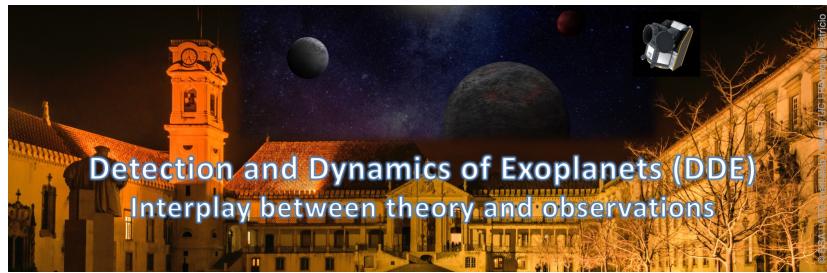


Detection and Dynamics of Exoplanets (DDE): Interplay between theory and observations



Contribution ID: 75

Type: **not specified**

Exoplanets in hierarchical triple systems

Wednesday, July 9, 2025 11:30 AM (15 minutes)

Stellar multiplicity plays a crucial role in shaping planetary system architectures. While the influence of stellar companions has been widely explored in binary systems, planets in hierarchical triple systems remain largely underexplored. The complex gravitational interplay within these systems challenges planet formation models, influencing migration, altering orbital eccentricities, and impacting long-term dynamical stability. Fewer than 40 exoplanets have been detected in triple star systems, most of them long-period gas giants discovered serendipitously. In this talk we present an observational effort to investigate planetary companions in a selection of hierarchical triple systems known to host long-period planets. By searching for inner planets within dynamically stable regions, we aim to provide empirical constraints on planetary architectures and reveal the unique characteristics of planets that exist under the gravitational influence of companion stars. Our goal is to push the boundaries of planet formation theories and enhance our understanding of planetary evolution and survival in complex, dynamically rich environments.

Presenter: CIFUENTES, Carlos (Centro de Astrobiología (CAB, CASIC-INTA))

Session Classification: Planets in binary systems