CIDMA CENTRO DE I&D EM MATEMÁTICA E APLICAÇÕES
CENTER FOR R&D IN MATHEMATICS AND APPLICATIONS

universidade de aveiro

Gravitational Geometry and Dynamics Group Seminar

Wed., April. 17th, 2024, at 11h00.

Room: Sala Sousa Pinto and **Zoom ID:** 989 6252 0928
(*Password: contact graposo@ua.pt)*

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Young brown dwarfs and rogue planets in the Milky Way

There are at least 100 billion brown dwarfs and planetary-mass objects in our Galaxy - objects that are not orbiting a star and have masses between that of Jupiter and of the lowest mass stars (~80 MJup). Several theories for their formation have been proposed, and could all as well be at work, but their relative importance is not known and is expected to vary with mass and environment. Knowledge of the dominant mechanism of brown dwarf formation is one of the crucial missing pieces in our understanding of how both stars and planets come to existence. To get there, we need to study their statistical population properties, together with individual substellar object characteristics. This is best done in the places of their birth: young star clusters and star-forming regions. In this talk I will present our joint observational efforts with a common goal of understanding Milky Way's substellar population. This includes assessing the substellar Initial Mass Function over various star-forming environments, search for free-floating planetary-mass objects and their disks in nearby star-forming regions, and spectroscopic characterization of their analogs in nearby young moving groups.

More about Gr@v
at: *gravitation.web.ua.pt*

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