

ARRAKIHS: The New ESA F-Class Mission to Investigate the Nature of Dark Matter

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The “Analysis of Resolved Remnants of Accreted galaxies as a Key Instrument for Halo Surveys” (ARRAKIHS) mission will explore the ultra-low surface brightness universe to investigate the nature of Dark Matter. ARRAKIHS was selected in November 2022 as the next F-class mission at ESA for Phases 0/A/B, with an estimated launch date in 2030. The ARRAKIHS science consortium, led by IFCA (Spain) in partnership with several European research centers and space companies, is collaborating with ESA to launch an array of visible and infrared cameras on board a mini-satellite in Low Earth Orbit. The goal of ARRAKIHS is to test the predictions of different Dark Matter models and baryon physics mechanisms on the halo structure as well as on the statistics of halo satellites and stellar streams for a representative sample of MW-type galaxies in the nearby Universe. In this talk, I will provide a progress report on the ARRAKIHS mission after successfully passing Phase 0/A and we continue working on Phase B that will end in early 2026 with the mission adoption.

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Classification de Session: Présentations