

Spanish contribution to the ESA's THESEUS mission

Tuesday, 15 October 2024 14:30 (20)

The Transient High Energy Sky and Early Universe Surveyor (THESEUS) is a medium sized space mission (previous candidate for M5) of the European Space Agency (ESA), currently proposed for M7 for evaluation (phase A) and with possible launch (if approved) in 2037. Its main objectives are the Early universe research through the observation of gamma rays (GRBs) and the study of electromagnetic counterparts of gravitational waves (GWs) and neutrinos emission sources. On the other hand, its on board instruments, with a wide field X-ray telescope in the 0.3-5 KeV with optical technology based on the "Lobster-Eye" system, a gamma ray telescope with capacity to create images and spectra in the 2-20 MeV (XGIS) range plus an infrared telescope of 0.7 m including a medium resolution spectrograph in the near infrared in the 0.7-1.8 μm range (IRT) constitute the ideal elements for unprecedented discoveries and in the line of ground and spatial instrumentation available in the decades of 2030-2040. THESEUS has just been re-selected (Nov.+ 2023) for the Phase A study (which will extend until 2026). Spain is involved in the THESEUS mission since its very early stages (M4 call) and is part of an international Consortium (currently) constituted by 15 countries, in which Spain is occupying the fifth position in terms of contribution. Spain is involved in two instruments of the mission, i.e. SXI by INTA and XGIS by U. of Valencia. The first is led by U. of Leicester (UK) and the second by U. of Bologna (Italy). In this talk I will present an overview of the mission and the role of its Spanish contribution.

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Session Classification : Contributed Talks