The Large Observatory For x-ray Timing - DTU Orbit (11/11/2019)

The Large Observatory For x-ray Timing (LOFT) was studied within ESA M3 Cosmic Vision framework and participated in the final down-selection for a launch slot in 2022-2024. Thanks to the unprecedented combination of effective area and spectral resolution of its main instrument, LOFT will study the behaviour of matter under extreme conditions, such as the strong gravitational field in the innermost regions of accretion flows close to black holes and neutron stars, and the supra-nuclear densities in the interior of neutron stars. The science payload is based on a Large Area Detector (LAD, 10 m² effective area, 2-30 keV, 240 eV spectral resolution, 1 deg collimated field of view) and a WideField Monitor (WFM, 2-50 keV, 4 steradian field of view, 1 arcmin source location accuracy, 300 eV spectral resolution). The WFM is equipped with an on-board system for bright events (e.g. GRB) localization. The trigger time and position of these events are broadcast to the ground within 30 s from discovery. In this paper we present the status of the mission at the end of its Phase A study.

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