Contribution ID : **39** Type : **not specified**

The enhanced X-ray Timing and Polarimetry (eXTP) and compact objects studies

The enhanced X-ray Timing and Polarimetry (eXTP) mission is a mission concept developed by an international Consortium led by the Institute of High Energy Physics (IHEP) of the Chinese Academy of Sciences, and with a substantial EU contribution. The mission is expected to be launched around 2025.
The scientific payload of eXTP consists of four instruments: The Spectroscopic Focusing Array (SFA), the Polarimetry Focusing array (PFA), the Large Area Detector (LAD) and the Wide Field Monitor (WFM). eXTP is conceived as the most powerful and general observatory for compact
Galactic and bright extragalactic objects ever.
It will offer for the first time the most
complete diagnostics of compact sources: excellent spectral, timing and polarimetry sensitivity on a single payload.

In this talk I will present the mission concept and the characteristics of the 4 instruments. I will then present the science potential of the eXTP mission, with particular emphasis on studies of strongly magnetized objects (magnetar candidates, accreting and rotation powered pulsars) and on the expected eXTP impact on QED and EOS studies.

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