

X-ray detector technologies for astrophysics on-board the enhanced X-ray Timing and Polarimetry (eXTP) mission

Friday, 19 October 2018 15:00 (30 minutes)

High energy radiation from celestial objects is one of the most powerful diagnostic tools to access and understand the mechanisms underlying the most energetic and violent phenomena in our Universe. Spectral, timing and polarimetric radiation signatures in the X-ray energy range offer a direct access to plasma in environments hosting extreme conditions of gravity, density or magnetic field.

The enhanced X-ray Timing and Polarimetry (eXTP) is a science mission specifically designed to study the state of matter under extreme conditions. To this aim the mission carries an unprecedented suite of instruments enabling for the first time simultaneous spectral-timing-polarimetry studies in 0.5-30 keV energy range.

In this talk we will describe the intensive R&D programs carried out in the last years by the Italian National Institutes for Astrophysics (INAF) and Nuclear Physics (INFN), focused on the development of innovative imaging photoelectric polarimeters and fast, large-area Silicon Drift Detectors (SDDs) that have led to the design of the Large Area Detector (LAD), the Polarimetry Focusing Array (PFA) and the Wide Field Monitor (WFM) instruments on-board the eXTP mission.

Primary author: EVANGELISTA, Yuri (ROMA2)

Presenter: EVANGELISTA, Yuri (ROMA2)

Session Classification: X-ray applications in various fields - 2