

Dark Matter Searches with the Micro-X Sounding Rocket

Monday, 8 May 2017 15:42 (18 minutes)

The Micro-X sounding rocket uses a Transition Edge Sensor (TES) array to make X-ray observations. The improved energy resolution of TESs compared to traditional space-based X-ray detectors brings new precision to both supernova observations and the X-ray search for sterile neutrino dark matter. Current X-ray observations disagree over the potential presence of a 3.5 keV X-ray line consistent with a sterile neutrino interaction, and Micro-X is in a unique position to establish or refute the presence of this line. We present the construction status of the instrument and expectations for flight observations, with special emphasis given to the prospects of sterile neutrino studies.

Primary author: HUBBARD, Antonia (Northwestern)

Presenter: HUBBARD, Antonia (Northwestern)

Session Classification: Dark Matter

Track Classification: Dark Matter - Convenor: Carsten Rott, SKKU