



Contribution ID: 38

Type: **not specified**

AntiCoincidence detector for ATHENA X-IFU

Friday 9 October 2020 11:00 (30 minutes)

Transition edge sensors (TES) play a key role in current projects of future X-rays space telescopes as are foreseen as detectors for the focal plane instrument. In order to full exploit their sensitivity in the space environment, they need an active cryogenic anticoincidence detector (CryoAC) to reject the background due to cosmic charged particles. As signal given by the interaction of high-energy protons (> 150 MeV) and other charged particle with the X-ray calorimeter cannot be distinguished from the one given by the scientific photons, thus degrading the instrument performance. It will be reported the CryoAC design and, in detail, the last prototype based on TES calorimeter where a 1-cm^2 silicon chip is used as both substrate and absorber. The readout is made of 96 iridium/gold TESs uniformly distributed on its surface and connected in parallel. Focusing on the production of the detector and its potentialities.

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Session Classification: Session 6 - Day 2 - PM