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## **Poster Session Submission of Abstract**

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Title of the Poster:

Focal plane 50 mK anticoincidence detector for the Athena X-ray observatory

### **Abstract Text:**

We describe the design and fabrication of an anticoincidence detector for the focal plane of Athena space X-ray observatory. This is needed to reject the background due to cosmic charged particles, thus allowing the observations of faint and far sources, as the largescale WHIM structure of baryonic matter. Indeed, high-energy charged particles ( $>150$  MeV) may release the same energy of the X-ray sources under observation on the instrument's X-ray microcalorimeter array detector. The prototype is based on 96 iridium TES onto a  $1\text{ cm}^2$  silicon absorber that is thermally and mechanically suspended with micro-machined silicon beams. The TES configuration is optimized for the detection of a-thermal phonons for achieving a faster response.

### **Summary:**

We describe the design and fabrication of a 50 mK anticoincidence prototype detector for the Athena space X-ray telescope. It is based on iridium TES and its development is fundamental to reject background due to high-energy cosmic charged particles. This allows the observations faint and far sources, as the large-scale WHIM structure of baryonic matter.

Keywords: TES, Astrophysics, low temperature detectors.