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## First structural tests of the CryoAC Detector silicon chip of the Athena X-ray observatory

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The 50 mK cryogenic focal plane anti-coincidence detector of the Athena X-ray observatory (CryoAC) is a silicon suspended absorber sensed by a network of 400 Ir/Au Transition Edge Sensors (TES) and connected through silicon bridges to a surrounding silicon frame plated with gold (RIM). The device is shaped by Deep Reactive Ion Etching (DRIE) from a single silicon wafer of 500  $\mu\text{m}$ . There are two different possible geometries: A single Monolithic absorber and a Segmented one with 4 distinct absorber structure. As part of the payload of space a mission the detector must resist to several mechanical excitations. We have tested a set of prototypes of the CryoAC vibrating several hexagonal Silicon samples. This vibrating them using the vibrational mask provided by CNES for the future ARIANE 6. The aim is to have a first information on the mechanical response of the Silicon bridges that connect the absorber to the RIM, to start a tradeoff over the two geometries and to validate the elastic-mechanical response.

### Collaboration

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