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## Low Temperature MMC Detector Arrays for the IAXO experiment

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The International Axion Observatory (IAXO) is searching for axions or axion-like particles generated in the Sun. A large magnetic field is used to convert solar axions to photons via the Primakoff effect. The major part of the expected spectrum considering only axion-photon coupling covers an energy range up to 10 keV with its maximum at about 3 keV. X-ray detectors with high efficiency in this energy range and low intrinsic background are required. Low temperature metallic magnetic calorimeters (MMCs) fulfil these requirements and can reach very low thresholds below 100 eV. We present the design of a new detector system for the IAXO experiment with the possibility to operate two different kinds of two dimensional MMC arrays. The setup is designed to host a large area MMC array with moderate energy resolution aiming to discover events related to axions. If axions were discovered the focus would move to spectroscopic studies. In this case a smaller MMC array featuring higher energy resolution would replace the initial array using the same setup. We show the current status of the experimental platform and discuss methods to identify background events based on pulse shape analysis and events coincidence in several pixels.

### Student (Ph.D., M.Sc. or B.Sc.)

N

### Less than 5 years of experience since completion of Ph.D

N

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