

Radiopure electronics for the Micromegas detector for IAXO

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New radiopure electronics for the Micromegas detector to be used in the future BabyIAXO helioscope is proposed based on the FEC-Feminos and AGET ASIC from Saclay due to their long trajectory of collaboration and proven functionality as in CAST experiment. The modular readout will be divided in two stages. The first part of the electronics is composed of 4 Front End Cards (FEC) with one AGET chip and spark filters. It is intended to be placed as near as possible to the detector inside the shielding, so, it should be as radiopure as possible by selecting the components and reducing their number. The second part of the readout will be performed by the Back End Card (BEC) which will include the ADC and an FPGA to control the system. In order to define the effect of the electronics placement and components, simulation studies are carried away that replicate the design and estimate the energy deposit in the detector from Monte Carlo emission events. In parallel, radiopurity characterization measurements on all components have been started in Canfranc.

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