

TRIFORCE: a PTOLEMY project

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Interest in the β -decay endpoint of atomic tritium is reaching new highs. The absolute mass of the neutrino is not yet known - PTOLEMY will soon join KATRIN and Project-8 in the fray. The PTOLEMY concept relies upon a cyclotron radiation emission spectroscopy trigger and a non-destructive tracking system. The *Tritium-Endpoint From β (TW) Radio-frequency Cyclotron Emissions* group is leading the R&D in this vein. The development of radio-frequency cavities for the simultaneous transport of endpoint electrons and the extraction of their kinematic information is essential in providing a fast online trigger and precise energy-loss corrections. The cryogenic low-noise, high-frequency analogue electronics combined with FPGA-based front-end analysis capabilities will provide the PTOLEMY demonstrator with its CRES readout and a testbed for further R&D at the Gran Sasso National Laboratory for the full CvB detector.

Poster prize

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PTOLEMY

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