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## Magnetic field calibration and instrumental response for Project 8 Phase II apparatus with a Kr-83m source

The Project 8 collaboration developed the Cyclotron Radiation Emission Spectroscopy (CRES) technique, aiming to directly measure the absolute neutrino mass with the tritium beta-decay electron energy spectrum endpoint method. Given the convenience of its K-conversion line at 17.8 keV near the tritium endpoint at 18.6 keV, we use  $^{83m}\text{Kr}$  as an electron source for magnetic field calibration and instrumental response measurement.

In this poster, we present our fitting of the spectrum of the  $^{83m}\text{Kr}$  17.8 keV line measured by the Project 8 Phase II apparatus. Based on the fitting, we find our instrumental resolution can be as small as  $\sim 2$  eV in a shallow magnetic trap. We also present the linearity performance of the instrumental response.

### Mini-abstract

We present fitting of  $^{83m}\text{Kr}$  17.8 keV line measured in Project 8 Phase II.

### Experiment/Collaboration

Project 8

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