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Energy Calibration of the EXO-200 Detector

The first stage of the Enriched Xenon Observatory (EXO), EXO-200, consists of an extremely low background time projection chamber containing ~150 kg of enriched liquid Xe-136 (LXe). The EXO-200 currently holds the most sensitive search for neutrinoless double beta decay in LXe. This search strongly relies on features presented in the energy spectrum of the measured events. The stringent requirements on the energy calibration are attained by frequent monitoring of the detector response. The energy resolution has been improved to an average of $\sigma/E = 1.53\%$ at the Q-value (2458 keV). This poster will focus on the energy calibration system of the EXO-200 detector along with the offline techniques applied to calibrate the data.

Primary author: Dr LICCIARDI, Caio (Carleton University)

Presenter: Dr LICCIARDI, Caio (Carleton University)

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