Contribution ID: **372** Type: **Poster new technologies**

The Low-Background Screening and Measurement Facility at the Boulby Underground Laboratory in the UK

Gamma ray spectroscopy using germanium detectors is a key method for the measurement of trace material contamination for the construction of neutrino-less double beta decay or dark matter experiments. Moreover, the measurements inform the experimental background models against which any potential signal is evaluated. A new world-class screening facility has been established at the newly completed 4000 m3 Boulby Underground Laboratory. The screening facility includes 7 ultra-low background gamma-spectroscopy detectors; 3 BEGe, a well-type, and 3 p-type instruments. The facility also includes a new XIA UltraLo-1800 alpha counter for radon-plate out and cleanliness studies; an area of increasing significance as intrinsic radioactivity from within materials is brought under control. The setup, calibration, operation and planned improvements through background suppression and replacement of materials assessed through radon emanation measurements will also be presented.

Session and Location

Monday Session, Poster Wall #111 (Auditorium Gallery Left)

Poster included in proceedings:

yes

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Presenter: Dr LIU, XinRan (University of Edinburgh)

Track Classification: Poster (participating in poster prize competition)