



## Poster session 1 - Monday 4 July

### P1.067 Radioassay program for nEXO – the next generation double beta decay experiment

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*on behalf of nEXO collaboration*

Two neutrino double beta decay of  $^{136}\text{Xe}$ , with  $T_2^1 = 2.165 \pm 0.016$  (stat)  $\pm 0.059$  (sys)  $\times 10^{21}$  y, is among the rarest nuclear processes ever directly observed in the laboratory. The hypothetical neutrinoless version, which nEXO aims to observe, is expected to be even rarer ( $T_2^1 > 1:1 \times 10^{25}$  y at 90% C.L.). Sufficient suppression of background is, thus, crucial to make a discovery possible. The majority of the background is expected to be caused by radioactivity in the detector components. Reducing these backgrounds to acceptable levels requires a comprehensive material screening program. This poster will describe the technologies the collaboration employs to assess the radioactive contents in various materials. The software tools for facilitating the screening process will also be described.