

Screening breakout session summary - 2nd July 2023

Jim on behalf of Hardy (who had to leave before the summary) and others in the breakout session

General discussion points:

- **Screening assets** - these are being tracked on the XLZD twiki - all interested parties to add their detectors (approx. sensitivity, availability)
 - NAA: key for PTFE, plans to develop capability in the UK (Adam Brown, Sheffield); also heard about D-T neutron generator + shallow lab with HPGe that is available for NAA
 - Doug Doug Leonard (IBS) Low Temp Detector (using AMoRE) to screen concentrated foils - potential for Ti with high sensitivity
- **Bottom-up-background model:**
 - nEXO will soon (in a few months) release their screening paper (including details of low-background nickel). Can be used as a resource for XLZD bottom-up estimates
- **Screening of LZ Ti**
 - Recap of story. Rn from “vessel” not necessarily the Ti itself. U-late chain used in 0vBB is upper limit - could come down and checking this is a priority
- **Cross calibration screening campaign**
 - Sources at detection limit, importance of a large sample to check how self-shielding is modelled
 - New 226Ra implanted Cu, SS and Ti plates ((4 cm)² with implantation on (2 cm)² area). Developed by Hardy Simgen - samples ready to be used. /useful to have as a flow-through source. Useful to have 100 uBq, mBq, Bq
 - For ICP-MS 234Th is a useful cross calibration as can be measured on ICP-MS and HPGe (Doug)

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General discussion points continued:

- **Cleanliness and QA**

- Importance of getting QA setup and socialised early. Sign-off procedures
- Defining what is in scope of radiopurity and cleanliness group and other WP

- **Radon emanation QA**

- Importance of allowing time in schedule to assay completed parts before they are all contaminated - to inform bottom model and understanding. Make sure there is time during assembly
- Discussed how requirements per subsystem will work

Lots of interesting discussion. Main conclusion was that the WBS work should start soon.

A suggestion/request from me (not the breakout): could we have a list on the twiki of everybody in the collaboration, their institute and couple of words on what they work on/want to work on.