

Radiopurity requirements for external tracker cables under assumptions

- Copper is radiopure (negligible contribution)
- Inside passive shielding 45kg of PE and 140kg of LSHF

Isotope	K40	Bi214	Tl208
Max activity PE, mBq/kg	900	270	27
Max activity LSHF, mBq/kg	290	85	8.5

If now cables insulation is only PE (TBC!)

Isotope	K40	Bi214	Tl208
Max activity PE, mBq/kg	220	65	6.5

Cables measured at Boulby with BEGe detector
for 14 days



Preliminary Results

Isotope	K40	Ra226	Bi214	Tl208	Th232 (Pb212)	U238	U235
Activity*, mBq/ <u>sample</u>	< 48	126 ± 54	< 6	< 4.9 (< 2.7 from Pb212)	< 7.5**	286 ± 148 (63 keV) < 159 (92 keV)	<5.7

* Limits are at 90%CL

** Corresponds to < 2.7 mBq for Tl208

Outstanding questions

- Measure the sample mass!
- Understand Bi214 1120 keV line
- Double check Cs137 excess
- Double check U238 and Ra226