

Implementation of an active muon veto in an existing low-level γ -ray spectrometer at the underground laboratory Felsenkeller

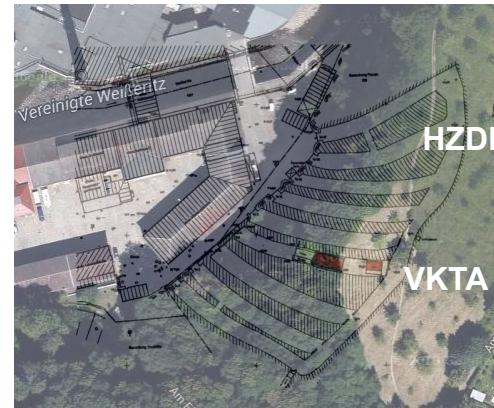
Detlev Degering, Bodo Mauksch, Matthias Köhler

VKTA - Radiation Protection, Analytics & Disposal Rossendorf e. V.

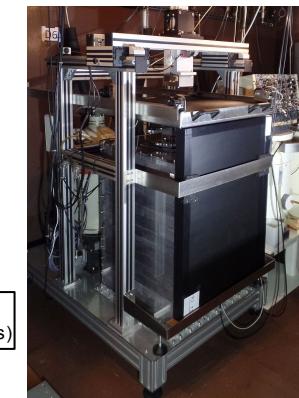
VKTA Dresden
RADIATION PROTECTION | ANALYTICS | DISPOSAL

Location:

- underground laboratory “Felsenkeller”, Dresden, Germany
- ≈ 140 m w.e. overburden (45 m rock)
- inhomogeneous spatial muon distribution
- neutron flux mainly from (μ, n) and (α, n) reactions



Poster #039

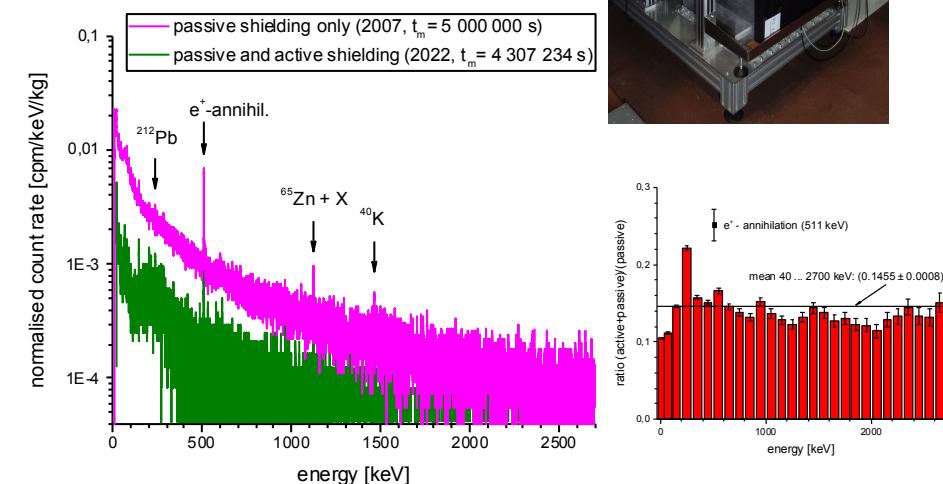


Goal:

- upgrade of an existing low-level gamma spectrometer with an additional active shielding

Results:

- total count rate (40 ... 2700 keV)
 $(0.2994 \pm 0.0015) \text{ min}^{-1} \text{ kg}^{-1}$
- total suppression ratio **(0.1455 ± 0.0008)**
- energy dependent suppression ratio must be subject of further investigations



Session: Low level γ -ray spectrometry (LLGS)