Surface Characterization of Germanium Detectors with Alpha Particles

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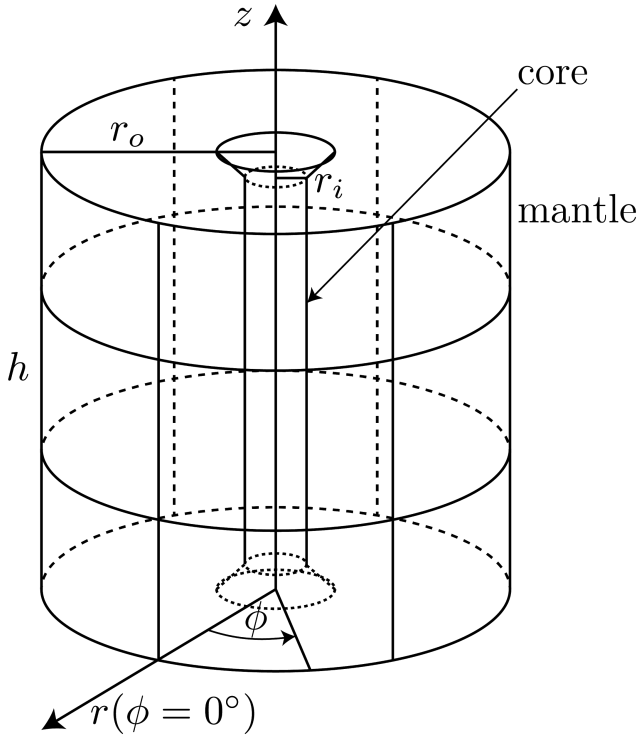
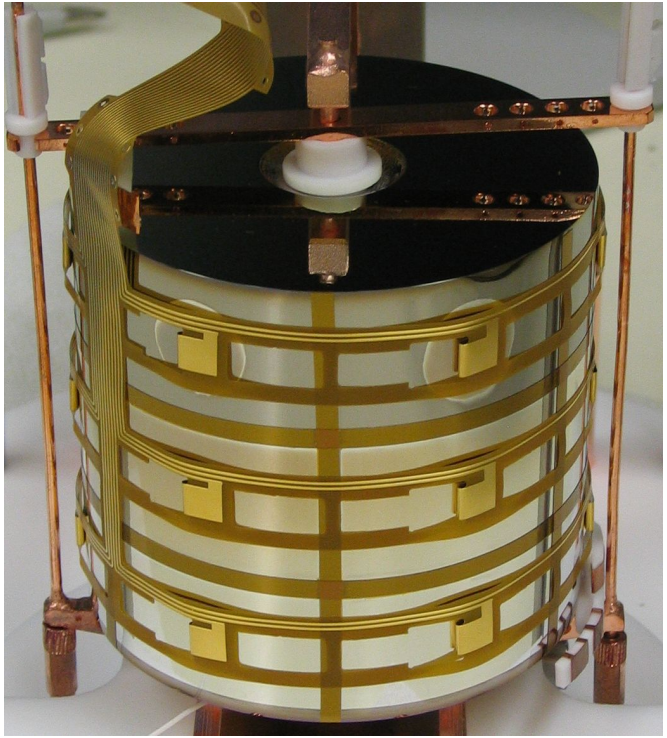
PIRE GEMADARC Collaboration meeting
Xichang, 10.07.2018

Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)

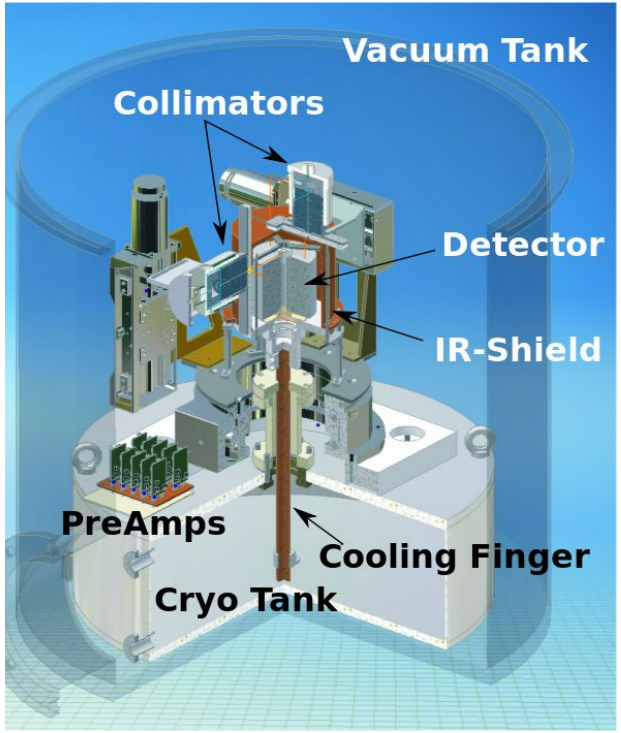
MAX-PLANCK-GESELLSCHAFT

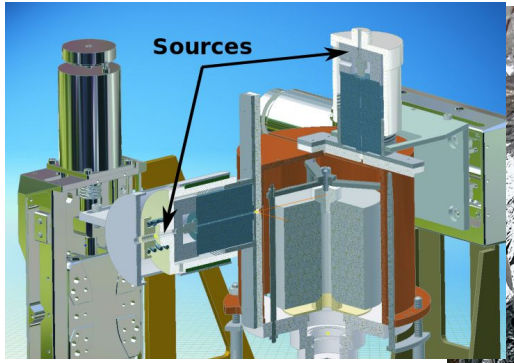
Germanium Detector: Siegfried III

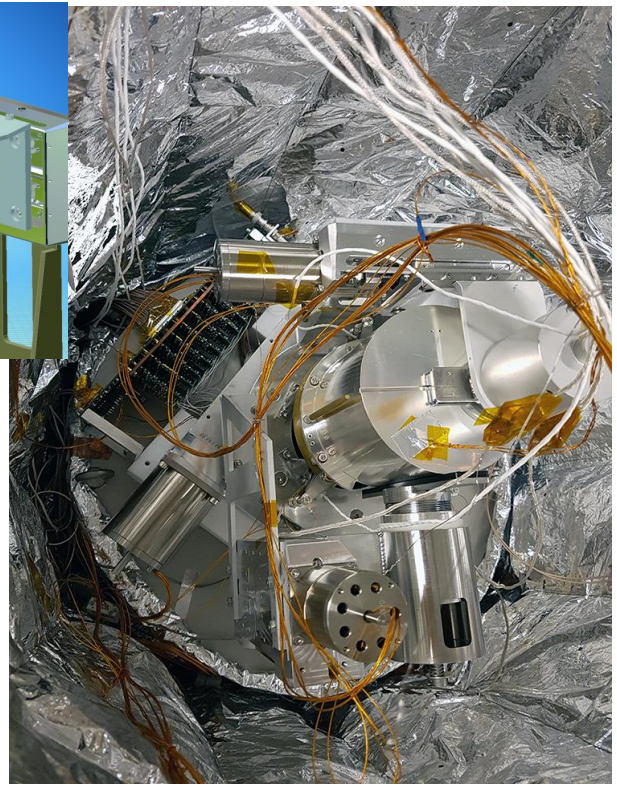




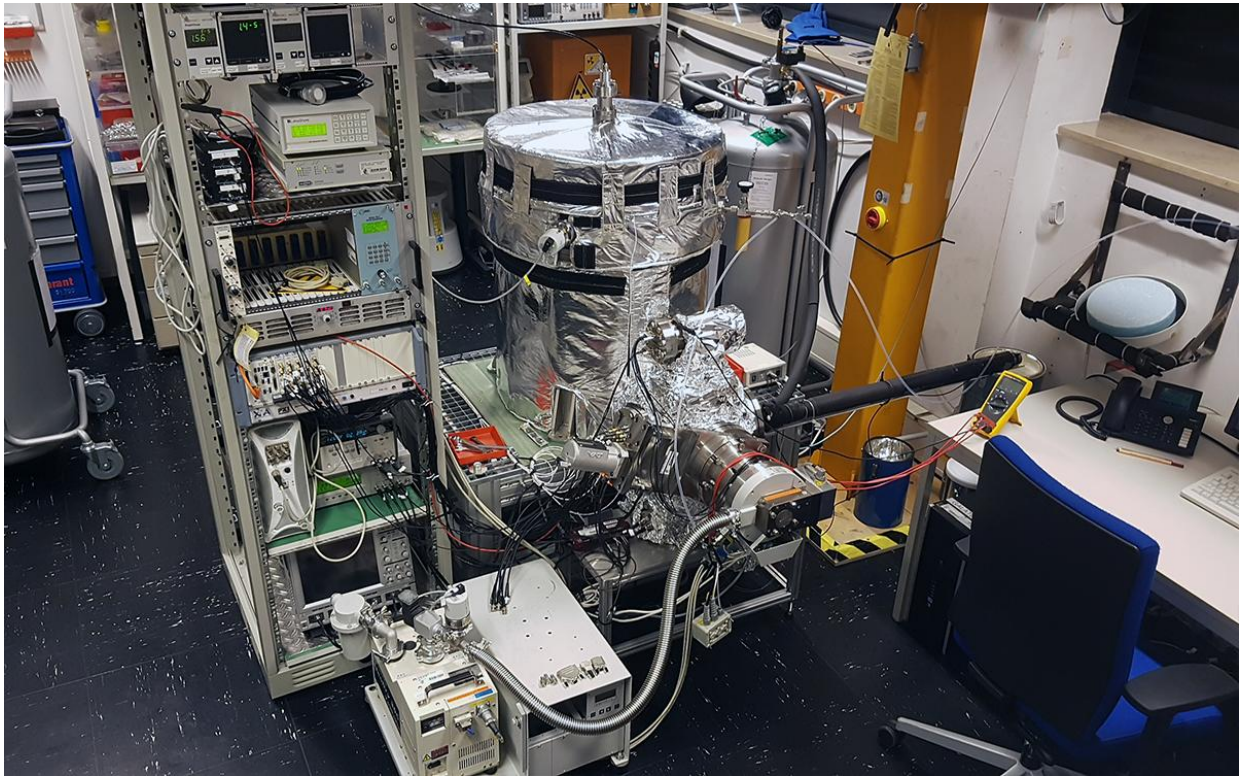
Experimental Setup: GALATEA



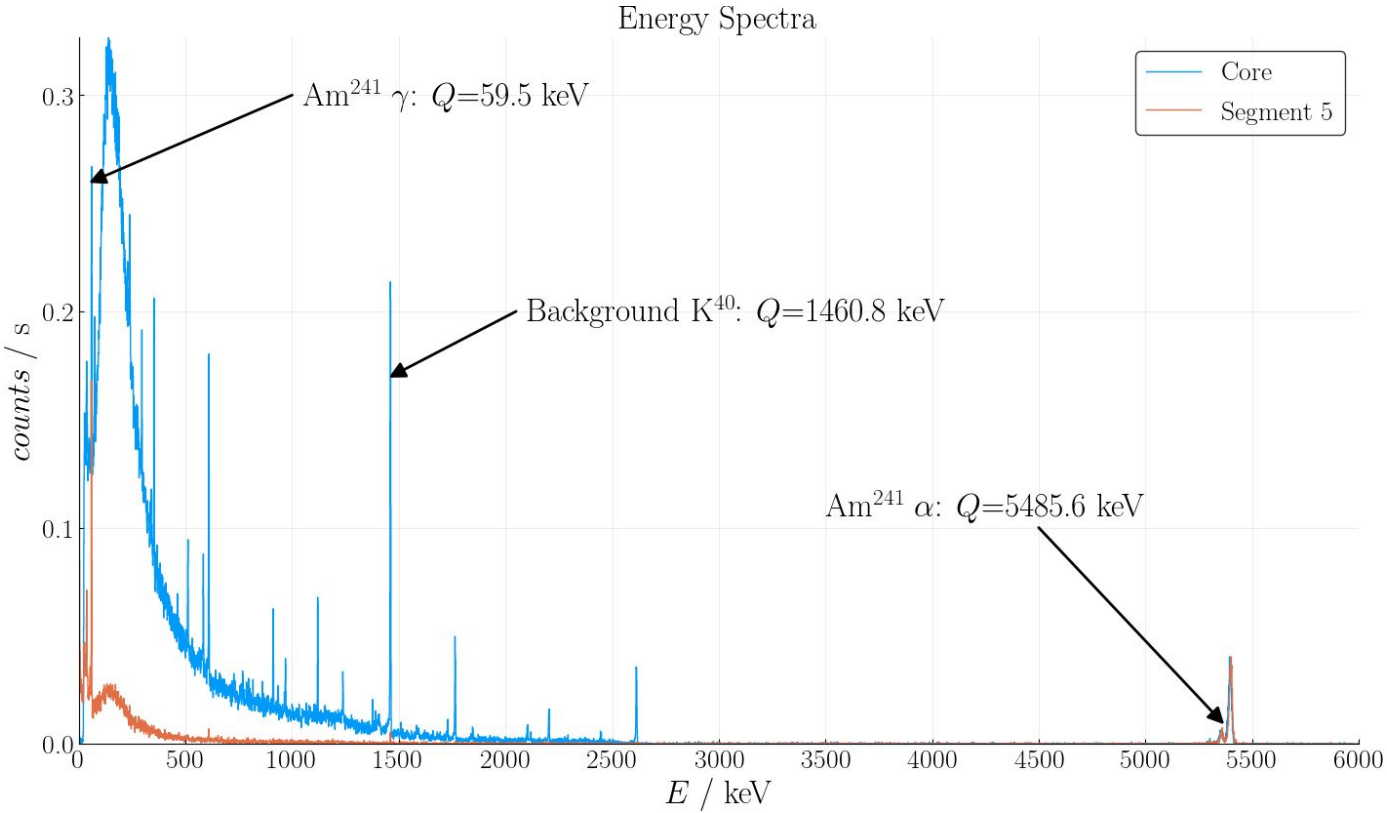




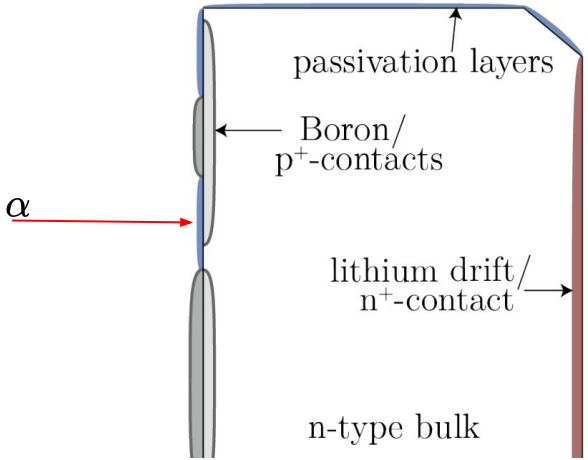
Experimental Setup: GALATEA



Americium-241



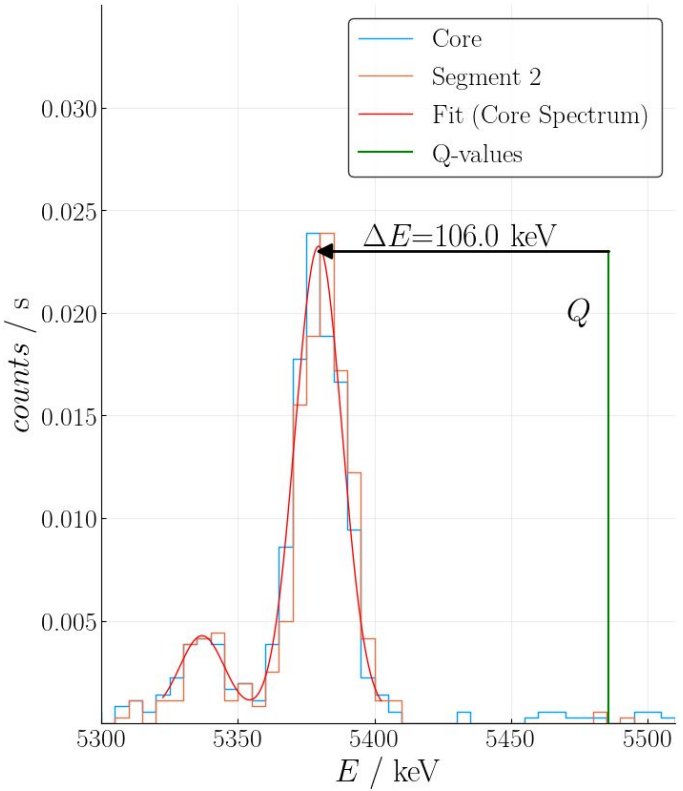
Am-241 - Boron Implantation Depth



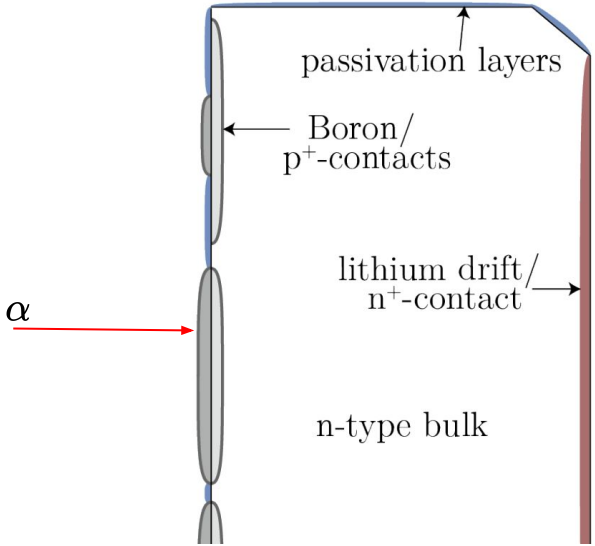
$$S^{\alpha}_{Ge}\left(E \approx 5.45\ \text{MeV}\right) \approx 206\ \text{keV}/\mu\text{m}$$

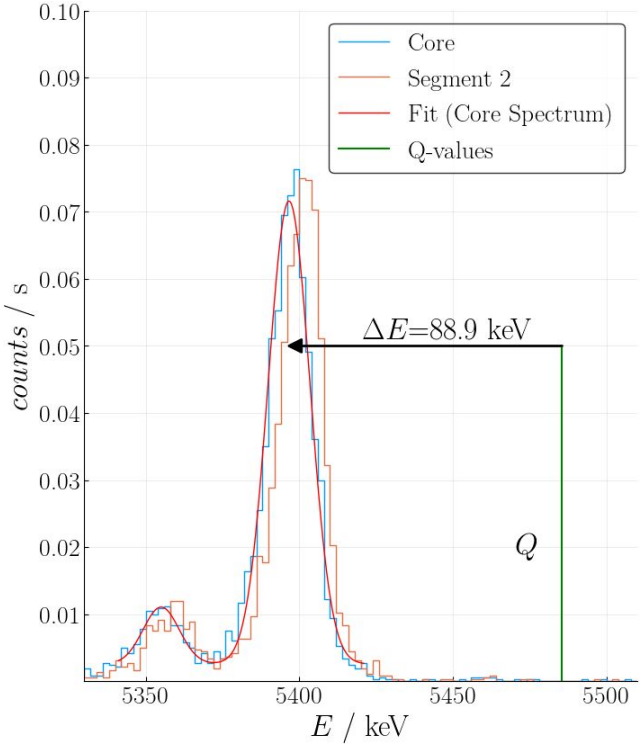
$$2\ \mu\text{m Passivation} \approx 330\text{keV}$$

- Boron depth $\approx 0.5\ \mu$m
- No passivation on the mantle around the metallization



Am-241 - Metallization thickness





Metallization really on the nm scale