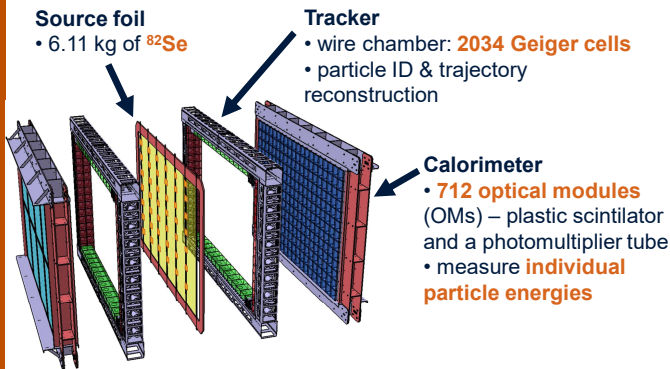




SuperNEMO - full $0\nu\beta\beta$ event topology

SuperNEMO detector



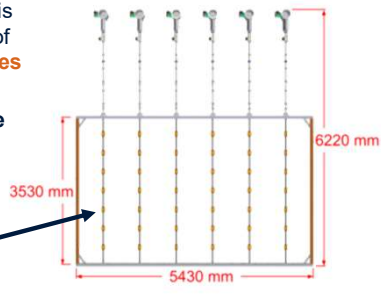
Calibration system

• SuperNEMO calorimeter is calibrated using a system of **42 ^{207}Bi calibration sources**

^{207}Bi calibration source

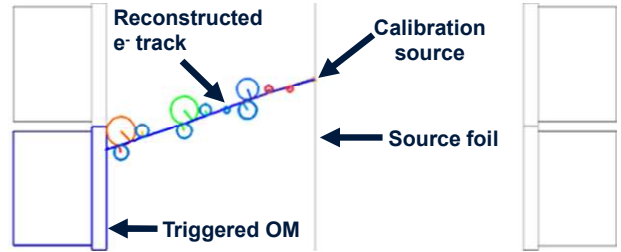


Automatic deployment system

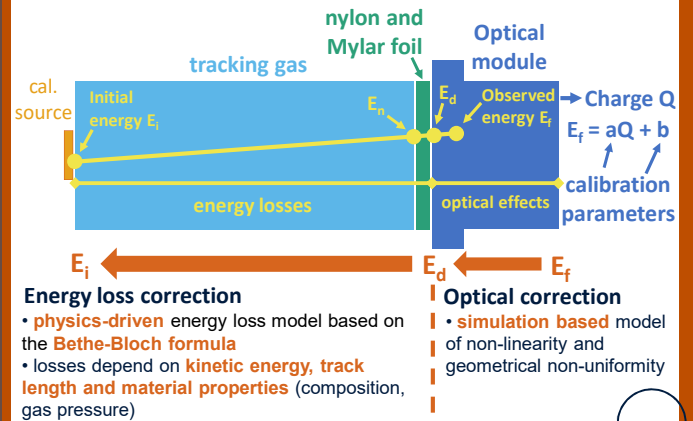


Calibration data

Calibration event (top view)



Electron propagation through the detector

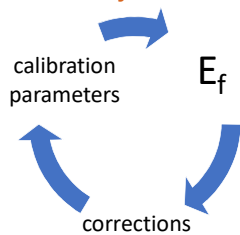


Calibration algorithm

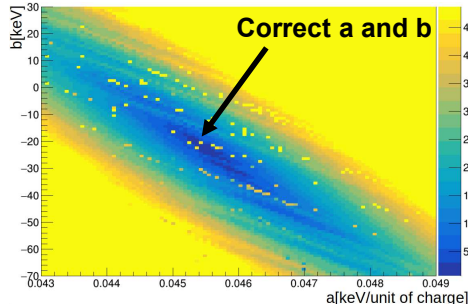
Energy correction application

• the goal is to **apply energy corrections** on the calibration data to extract calibration parameters **a and b with improved precision**

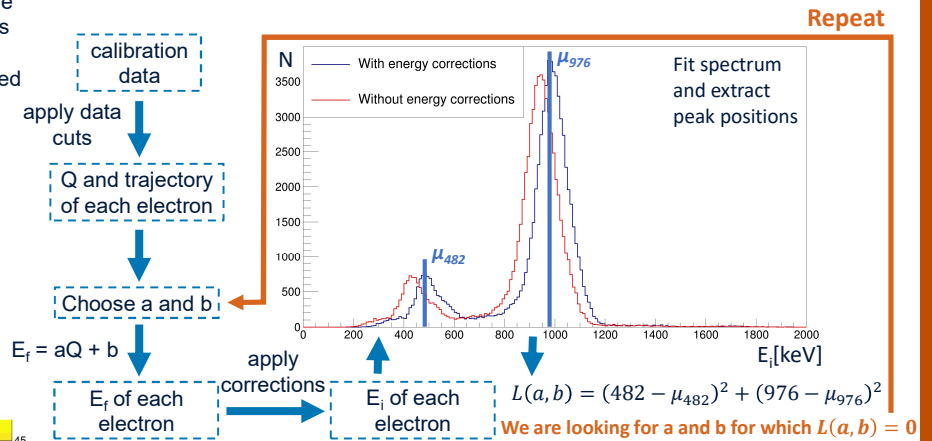
• corrections are applied on E_f which is calculated using a and b → **we first choose arbitrary a and b and then verify its correctness**



Loss function



Loss function calculation



Conclusions

- there are **effects affecting the energy measurement** which need to be taken into account in the calibration process
- our physics-driven model **accurately reproduces SuperNEMO's energies** from measured charge and trajectory

