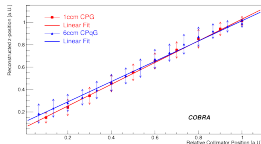
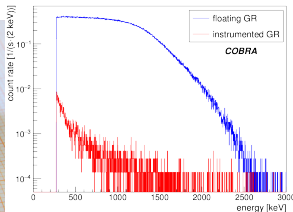
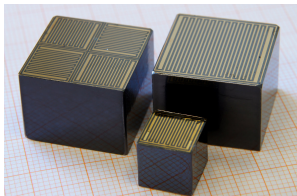


## COBRA Extended Demonstrator

- COBRA - Search for  $0\nu\beta\beta$ -decay using CdZnTe detectors
- Recently upgraded from *demonstrator* phase to extended demonstrator *XDEM* with 9 new detectors
- 6× larger crystals with novel features for background suppression
- Better surface-to-volume ratio and less inactive mass
- Quad-Grid CPG for improved energy resolution and coincidence veto
- Guard-Ring to suppress influence of surface contaminations highly effective
- Various improvements in material selection and handling



- Characterization of new detectors to determine key parameters
- Working point, energy resolution, efficiency, about 2500 measurements in total
- Mean energy resolution of detectors 2.4 % FWHM @ 662 keV - better than small demonstrator detectors

- Installation and first calibration in March 2018
- Largely successful, but problems with HV and signal routing - will be fixed in July
- Stable data-taking with reduced number of channels since April
- Very preliminary analysis shows nearly no events above 2 MeV

