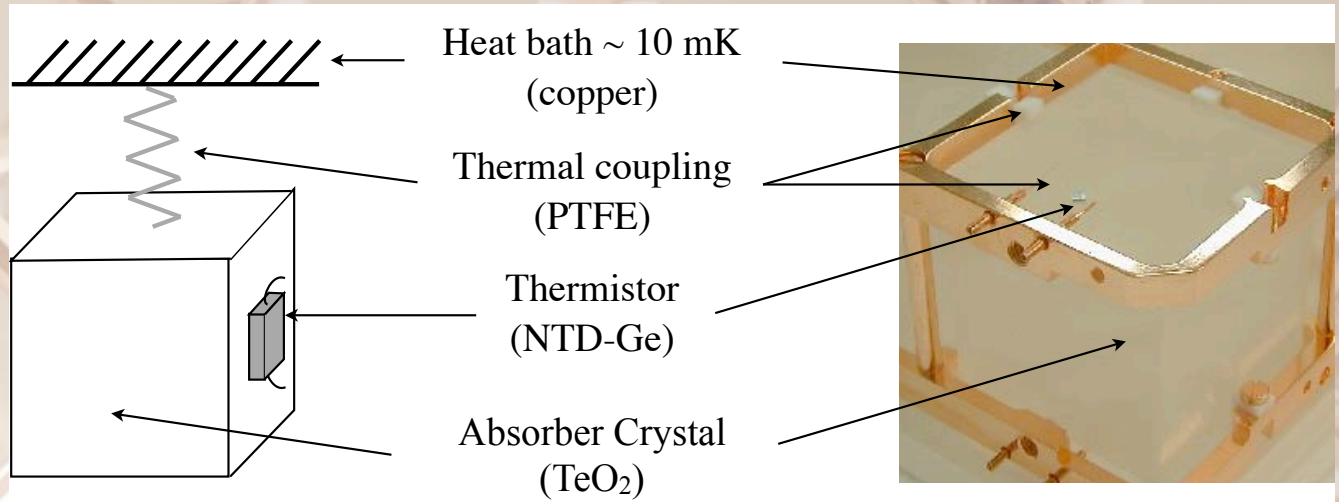


Optimization of the CUORE bolometers response

CUORE experiment: Search for $0\nu\beta\beta$ search in ^{130}Te

Detector technology: TeO need to be operated at very low temperatures, ~ 10 mK

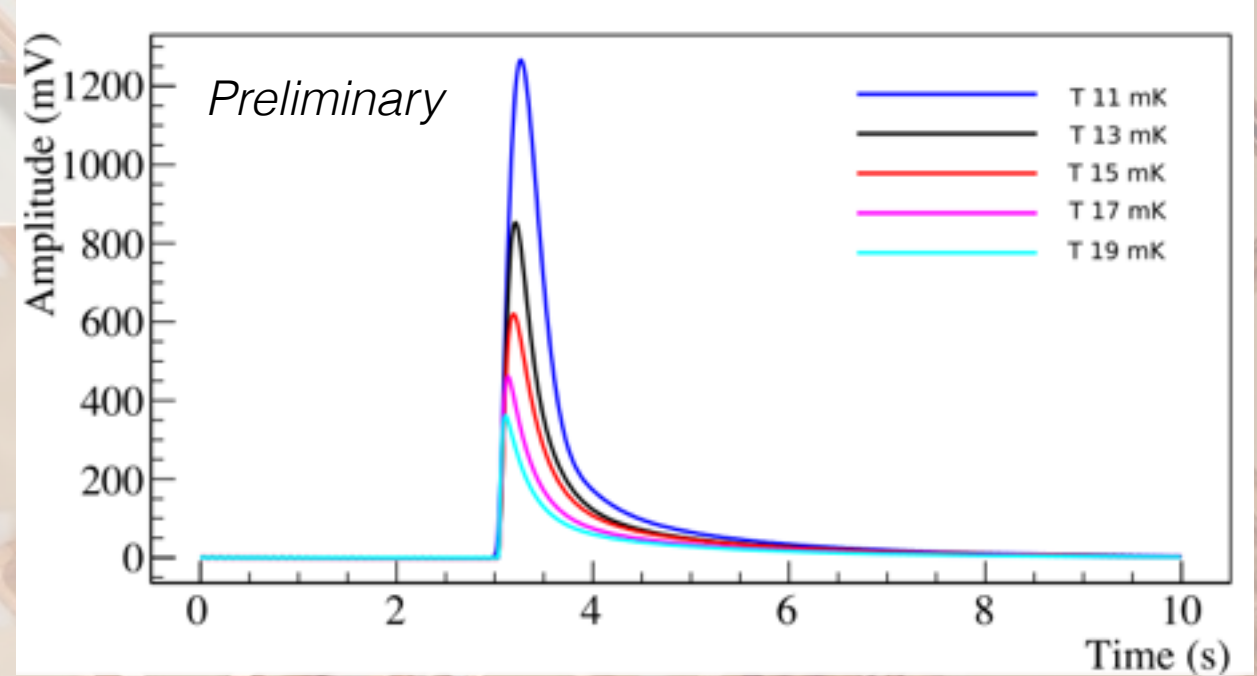


- **High Mass of TeO**
988 crystals, 742 kg (206 kg of ^{130}Te)
- **Background goal :**
10
- **Energy resolution goal:**
5 keV FWHM in the Region Of Interest (ROI)

Amplitude of the pulse which is converted in thermal phonons

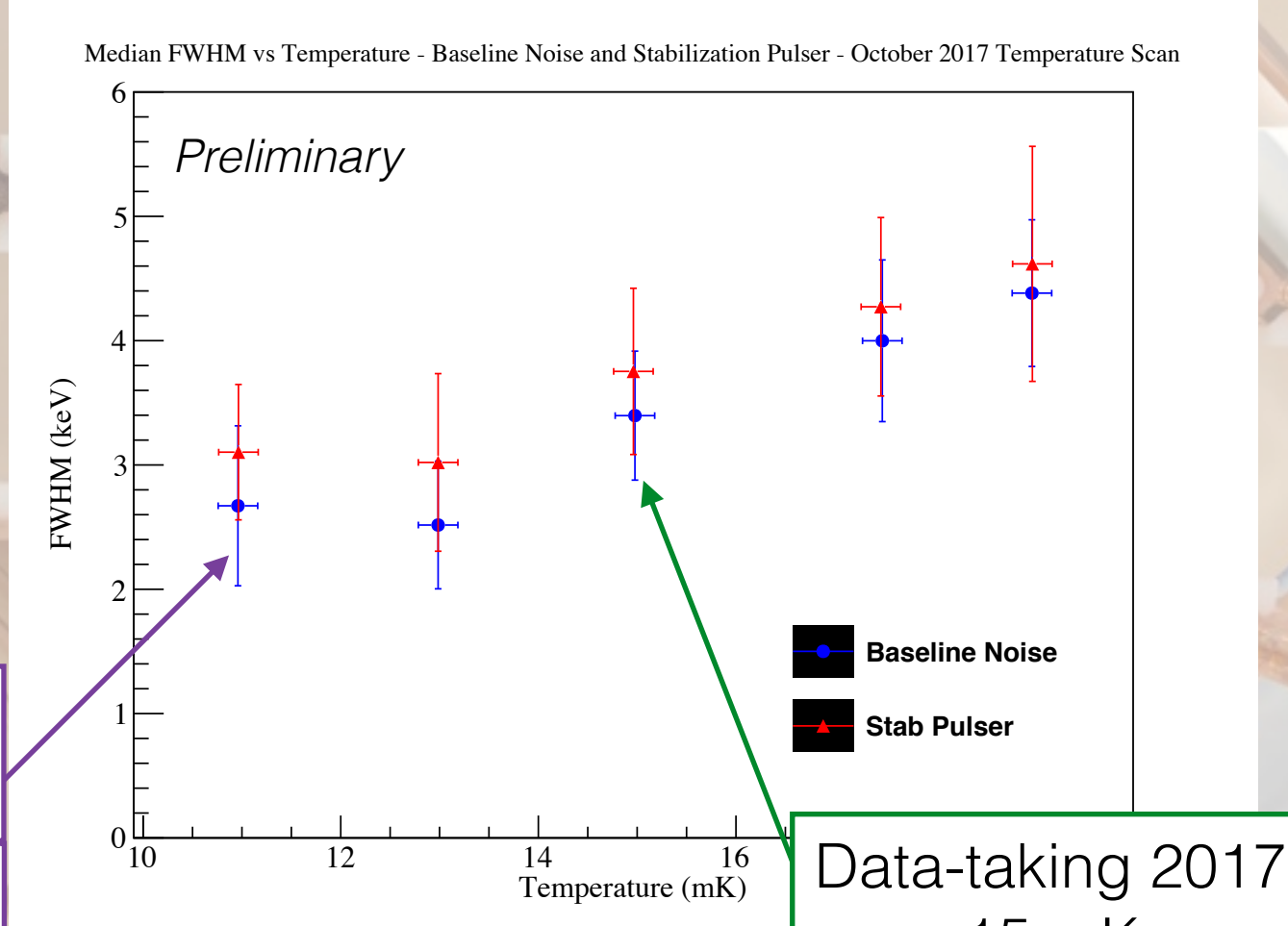
The CUORE detector optimization

Temperature scan,
 characterize the detectors response and optimize
 the CUORE energy resolution



Data-taking 2018
11 mK

Expecting improved FWHM
on particle signals (@ $Q_{\beta\beta}$)
compared to 15 mK



Data-taking 2017
15 mK

FWHM = 7.7 keV @ $Q_{\beta\beta}$