

# Differential Detector Status Update

KATRIN++ Call  
23.06.2025

# Status of Different Activities

- ELECTRON Project
  - **Paper 1** - *“Comparison of the detector response and calibration function of metallic microcalorimeters for X-ray photons and external electrons”* → Published in NIM A, [doi.org/10.1016/j.nima.2025.170662](https://doi.org/10.1016/j.nima.2025.170662)
  - **Paper 2** - *“Measurement of the Kr-83m Spectrum with Metallic Microcalorimeters”* → in preparation, to be published in the next months
- Sensitivity Studies
  - **New software** developed specifically for sensitivity studies with differential detector and atomic source
  - **Purpose** → testing potential future setups and translate into sensitivity on neutrino mass
  - First results expected soon → to be shown in one of the next meetings
  - Testing of software ongoing to ensure reliable results → comparison with KaFit