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## **Monitoring of the high voltage stability in the KATRIN experiment**

The Karlsruhe TRItium Neutrino (KATRIN) experiment aims to achieve a sensitivity on the effective electron antineutrino mass of  $200 \text{ meV}/c^2$  (90% C.L.). The experimental spectroscopy technique, based on a MAC-E filter (magnetic adiabatic collimation with electrostatic filter), relies on stability of the spectrometer retarding high voltage. Precise monitoring of the stability in the region of about  $-18 \text{ kV}$  is challenging even with present day techniques. Therefore, two independent methods will be applied. Firstly, the high voltage will be scaled down by the KATRIN K35 and K65 high-precision voltage dividers to values which will be measured by precise voltmeters. Secondly, the same high voltage will be applied to another MAC-E filter, called the monitor spectrometer, which will measure monoenergetic conversion electrons emitted from a nuclear standard. Any shift in the electron energy will point to an instability in the high voltage system of KATRIN. We present data analysis methods and results of energy stability measurements of the conversion electrons performed at the monitor spectrometer.

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