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Precise Q-Value Measurements for Neutrino Physics

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The list of open issues in neutrino physics is long. We do not know, for instance, the absolute neutrino mass value, the neutrino type (Majorana or Dirac), or whether there are sterile neutrinos.
Penning-trap mass spectrometry can help solve some of these issues by determining the Q-values of certain beta and double-beta processes with high precision.
This contribution will give a brief overview of an extended and diverse experimental campaign carried out with existing high-precision Penning-trap facilities in the field of neutrino physics. The focus will be put on our past and present activity at SHIPTRAP and on a future physical program for the next generation Penning-trap mass spectrometer PENTATRAP.

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