

Precision Penning-trap mass measurements of light atomic masses

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Precision Penning-trap mass measurements contribute to a number of physics questions in atomic, nuclear, neutrino and fundamental physics. They allow, among others, for the determination of fundamental constants, to perform stringent tests of bound-state quantum electrodynamics calculations and serve as a systematic check in experiments aiming for the determination of the absolute mass scale of neutrinos, e.g., with the Karlsruhe Tritium Neutrino Experiment KATRIN. I will present our most recent mass measurements in the regime of light ions, which allowed to resolve discrepancies in the reported literature masses of light atomic nuclei from various experiments, as well as of heavier species for neutrino physics input and even for dark matter searches where relative mass uncertainties at the level of 10-12 are required.