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Recent results from the mass spectrometer ISOLTRAP

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Atomic masses of radioactive nuclides provide crucial information for a number of research topics, from nuclear structure and its manifestations across the nuclear chart, to the modelling of the r-process of nucleosynthesis. In this contribution, we will present the latest mass measurements from the precision Penning-trap mass spectrometer ISOLTRAP, located at the ISOLDE facility at CERN. The masses of neutron-rich $^{129-131}\text{Cd}$ isotopes were determined using ISOLTRAP's unique combination of four ion traps, including a multi-reflection time-of-flight mass spectrometer, which is now used for beam purification and mass spectrometry as well. The cadmium isotopes are an important input for modelling the astrophysical r-process of nucleosynthesis, as the ^{130}Cd isotope is thought to be a major waiting point nuclide. The masses of neutron-rich chromium isotopes were measured, approaching the $N = 40$ region, where nuclear collectivity is expected. Additionally, the masses of $^{101,102}\text{Sr}$ and $^{101,102}\text{Rb}$ were determined, extending the investigations of the $A \approx 100$ nuclides in a well-known region of nuclear shape transition.

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