



Contribution ID: 63

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The ISOLTRAP system for decay spectroscopy studies

Penning traps are ideal tools not only for high-precision mass measurements on short-lived nuclides, but also for isobaric and even isomeric beam purification. A system for beta- and gamma- spectroscopy installed behind the Penning trap can be used for both performing decay spectroscopy on pure samples in regions where contamination hampers standard measurements, as well as for assisting mass measurements by decay-identification of the trapped species.

The installation of such a system at the ISOLTRAP Penning trap mass spectrometer located at ISOLDE/CERN is very challenging. The main reasons are a limited space, ultra-high vacuum required for mass measurements, a small number of ions which can be purified efficiently in the trap, and the need to reaccelerate the ions to kV energies for a reliable implantation avoiding ion losses during decay observation. In spite of these obstacles, in autumn 2009 the first successful tests using 80Rb beam were performed.

In this contribution, we discuss the technical details of the setup, the results of the commissioning beamtime, and future prospects.

Is this an invited talk? (please answer yes or no)

no

Would you prefer your contribution to be an oral presentation? (please answer yes or no)

yes

Are you a student, postdoc or an attendee from an “emerging” country and would like to apply for financial support?

no

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Track Classification: Production and manipulation of RIB