

## First spin-polarized nuclei at REX-ISOLDE

*Tuesday 18 December 2012 15:10 (20 minutes)*

Spin-polarized nuclei are of great interest in many fields of physics, for example in nuclear structure, solid state and bio-physics. To reach this wide range of applications, an in-flight polarization technique based on the passage of ions through thin tilted foils has been investigated. This technique allows a beam of any non-zero spin nucleus to be polarized and post-accelerated. An experimental setup based on this technique has been installed at the REX-ISOLDE post-accelerator at CERN. To measure the degree of polarization, a  $\beta$ -NMR setup has been constructed after the polarizing foils. Recently we have concluded a successful commissioning run at REX-ISOLDE using a beam of  $^8\text{Li}$  that passed through tilted carbon foils and was implanted into a target crystal for observation of the angular distribution of beta particles. RF was applied in order to observe the NMR spectrum, with the unambiguous signal of the destruction of  $\beta$  asymmetry. Nuclear polarization in the percent region has been measured.

This contribution will present the experimental setup, including the tilted-foil and  $\beta$ -NMR systems. Next the  $^8\text{Li}$  experiment will be described, followed by results and their interpretation. The setup presented here constitutes a major improvement over past tilted-foil experiments at ISOLDE which used a high voltage platform and much lower energy ions. An outlook and future plans for the setup will be given.

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**Session Classification:** Technical news