Contribution ID: **2** Type: **not specified**

Status of the MINOS project

Tuesday, 10 September 2013 10:50 (30 minutes)

MINOS (acronym for MagIc Numbers Off Stability) is a device dedicated to perform in-flight gamma spectroscopy of very exotic nuclei in knockout reactions. It consists of a thick liquid hydrogen target (15-20 cm) surrounded by a TPC acting as a tracking detector. The vertex position is reconstructed from the direction of the emitted protons and the beam. In this way one can profit of the increase of luminosity (up to one order of magnitude) due to the thick target without losing resolution in the Doppler correction, as would occur if the vertex position in the target was not measured.
The MINOS device has been assembled and tested at CEA Saclay. An in-beam test is scheduled in October at the HIMAC facility in Chiba, Japan. It will be ready since the beginning of 2014 to perform experiments at the RIBF facility coupled with the DALI2 gamma array and the SAMURAI or ZeroDegree spectrometer. It is expected to allow the spectroscopy of key nuclei for the question of the evolution of magic numbers (e.g. 78Ni and 40Mg) that nowadays would be hard (if not impossible) to reach without such a thick target.
The device will be described and the status of the project will be presented.

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Session Classification: Session 1