

MINOS : performance and results from the first physics experiment at the RIBF

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MINOS is a new device composed of a thick liquid hydrogen target and a Time Projection Chamber (TPC), dedicated to the in-beam spectroscopy of very exotic nuclei in inverse kinematics by proton-induced knockout reactions at the Radioactive Isotope Beam Factory (RIBF) in Japan. This TPC enables the detection of the charged particles produced by knockout reactions and the reconstruction of the reaction vertex, thus ensuring a good Doppler correction for the measured gamma rays.

The TPC has been validated in beam at the HIMAC facility in Chiba in October 2013 and the MINOS device was coupled to the DALI2 scintillator array during the first experimental campaign aimed at the first gamma-spectroscopy of ^{66}Cr , ^{70}Fe , ^{72}Fe and ^{78}Ni at the RIBF in May 2014. The performance and tracking algorithm of the TPC will be presented, as well as first analysis results from the experimental campaign.

Primary author: Ms SANTAMARIA, Clementine (CEA Saclay)

Co-authors: Dr OBERTELLI, Alexandre (CEA Saclay); Dr CORSI, Anna Maria (CEA Saclay); MINOS, Collaboration (CEA Saclay); SEASTAR, Collaboration (CEA Saclay, RIKEN Nishina Center ...); Dr LOUCHART, Corinne (TU Darmstadt); Dr TAKADA, Eiichi (NIRS-HIMAC); Dr NOWACKI, Frédéric (IPHC Strasbourg); Dr SASANO, Masaki (RIKEN Nishina Center); Dr DOORNENBAL, Pieter (RIKEN Nishina Center); Dr OTA, Shinsuke (Center for Nuclear Study, The University of Tokyo); Dr WERNER, Volker (TU Darmstadt)

Presenter: Ms SANTAMARIA, Clementine (CEA Saclay)

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