Contribution ID: **4** Type: **Accepted**

Transfer reactions with T-REX for 11Be

Friday 10 December 2010 09:30 (20 minutes)

Results presented for the IS430, the T-REX and the Miniball collaborations.

The aim of IS430 is to test our understanding of the halo nucleus 11Be and its structural relation to the neighbouring nuclei 10Be and 12Be through one-neutron transfer reactions. A first run in 2005 employing only charged particle detectors gave encouraging results, but showed that gamma-ray detection is needed to extract detailed information on the populated excited states in 10Be and to some extent also 12Be. The two recent runs, October 2009 and (with significantly improved statistics) September 2010, therefore employed the T-REX set-up coupled to Miniball. This presentation will focus on results from the latest run.

From the identified outgoing tritons, deuterons and protons we can extract the excitation spectra of 10Be, 11Be and 12Be. All previously known particle-bound excited states in these nuclei - except for the excited 0+ states in 10,12Be - are populated and can be identified through gamma-ray coincidences. For several of the populated states the intensity is sufficient to eventually extract the cross-section as a function of angle. The total excitation spectra and the gamma-coincident ones will be shown. Preliminary theoretical calculations for the older data will also be presented and discussed.

Author: Dr RIISAGER, Karsten (CERN)

Presenter: Dr RIISAGER, Karsten (CERN)

Session Classification: Light Mass Nuclei