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New perspectives to study Neutronrich, EXotic, heavy nuclei produced in multinucleon Transfer reactions with NEXT

Neutron-rich, heavy, EXotic nuclei around the neutron shell closure at N=126 and in the transfermium region are accessible via multinucleon Transfer reactions which feature relatively high cross sections. The wide angular distributions of the multinucleon transfer products lead to experimental challenges in their separation and identification.
We will overcome these challenges with the new NEXT experiment at the PARTREC facility in Groningen. NEXT is designed in such a way that a large fraction of the target-like transfer products emitted in a forward angel of 10° to 40° from the target will be separated and focuses towards a gas-catcher within a field of a 3 Tesla solenoid magnet. After thermalization the heavy transfer products are injected into a MultiReflection Time-of-Flight Mass Spectrometer for precision mass measurement and sample preparation for back-ground free mass spectrometry. Thus, even very long-lived, heavy transfer products can be identified and studied with NEXT. NEXT is currently undergoing commissioning.
In my contribution I will give an overview of the NEXT setup and report on the first beam on target experiments.

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