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## HISPEC/DESPEC: Status and first experiments

*Friday, 17 October 2014 10:00 (20 minutes)*

The HISPEC/DESPEC collaboration is one of the sub-collaborations of NUSTAR and will utilise high-resolution  $\gamma$ -ray and neutron spectroscopy to address questions in nuclear structure, reactions and nuclear astrophysics. Experiments will use a range of detector setups to study exotic nuclei unreachable in other laboratories with the first experiments using the AIDA implantation and decay system in connection with a DESPEC Ge array (DEGAS) to measure  $\beta$ -decay life-times, Q values and excited states of neutron-rich nuclei. By using FATIMA (in combination with DEGAS) level lifetimes in the nanosecond regime can be accessed. Combinations of AIDA with the neutron detectors BELEN and MONSTER will give information on  $\beta$ -delayed neutron emission and neutron spectroscopy respectively, while the DTAS total absorption spectrometer will be used to measure the  $\beta$ -decay strength function. In-beam experiments will use the combined power of state-of-the-art  $\gamma$ -ray arrays such as AGATA combined with charged-particle detectors LYCCA (and the LEB spectrometer) to identify the secondary reaction products of interest. The status of our detector setups and the physics goals of our first experiments will be briefly discussed.

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