

Workshop on Active Targets and Time Projection Chambers for High-intensity and Heavy-ion beams in Nuclear Physics

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The SpecMAT magnetic active target for the spectroscopy of exotic nuclei

Wednesday, January 17, 2018 12:00 PM (30 minutes)

The SpecMAT project aims at using nucleon-transfer reactions to study crucial regions of the chart of nuclei, to understand the features of the underlying forces that drive shell evolution. Initially, we will focus on the neutron-rich nuclei around nickel ($Z=28$) and, for the first time, the neutron-deficient nuclei around lead ($Z=82$). SpecMAT is an active-target detector that combines high luminosity, high efficiency and a very large dynamic range and allows detection of both charged-particle and gamma-ray radiation. Advanced technologies are exploited in its design, concerning the use of electronics, gaseous detectors and gamma-ray detectors in a magnetic field. The detector will be installed in the ISS magnetic solenoid, at the HIE-ISOLDE facility for the production and post-acceleration of radioactive ion beams at CERN in Geneva.

The main physics cases will be briefly presented, along with an overview of the status of the project.

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