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Progress of the IS559 experiment

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The IS559 experiment is the first ever attempt of utilising the Oslo Method with a radioactive beam in inverse kinematics reactions. A ^{66}Ni beam with 4.5 MeV/u hit a deuterated polyethylene target for a total of ≈ 10 days. The ultimate goal of the experiment is to look for particle-gamma coincidences from the $d(^{66}\text{Ni},p)^{67}\text{Ni}$ reaction, reconstructing the excitation energy from the proton energy on an event-by-event basis. Six large volume ($3.5 \times 8''$) LaBr₃:Ce detectors were coupled to the Miniball setup to boost the overall gamma detection efficiency. The charged particles were detected with the C-REX silicon setup. Level density and gamma strength function will be extracted from the resulting gamma-excitation matrix. Preliminary particle, gamma and time spectra will be presented.

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