



ID contributo: 2

Tipo: non specificato

Report on AGATA@GANIL experiment E810_20 (ex-E766) "Identification of exotic reaction channels in $^{238}\text{U}+^{238}\text{U}$ "

The aim of the experiment was to produce and identify neutron-rich nuclei in the uranium region by multi-Nucleon Transfer (MNT) aiming at a particle identification in atomic mass A by VAMOS and in atomic charge Z by x-ray detection (L and K radiation) in ID-fix, a set of three Low Energy Photon Spectrometers (LEPS), in the reaction $^{238}\text{U}+^{238}\text{U}$ at above-Coulomb barrier energies. The VAMOS setup was equipped with a new target chamber accommodating the three LEPS x-ray detectors and a second arm including the HARPEE particle detector. VAMOS was equipped with new MWPC detectors. AGATA was used to investigate the nuclear excitation structure of the detected nuclei as well as their K x-rays.

From May 20th to 29th 2021 a ^{238}U beam with 7.2 MeV/u and 6.765 MeV/u was used to irradiate a ^{238}U target. While the data taken at the higher energy is probably very limited and the probability to extract data for exotic reaction channels is low, the amount of data taken for the second energy should allow the investigation of isotopes with a production cross section down to $\approx 20 \mu\text{barn}$. The experiment suffered from various problems on the accelerator side which lead to a drastically reduced, accumulated beam dose, equivalent to ≈ 1.5 days at nominal beam intensity, as compared to the requested 7 days of beam on target.

Nevertheless, a proof-of-principle investigation should be possible and the presently ongoing data analysis will indicate possibilities for a continuation of the project either at VAMOS with an alternative γ -detection setup or possibly at LNL with the combination of AGATA+PRISMA.

The actual status of the data analysis will be presented.

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