

ERASMUS MUNDUS MASTER IN NUCLEAR PHYSICS
Academic Year 2024/2025

MASTER THESIS PROPOSAL

TITLE: Thermodynamical properties of the Quasi-Projectile in Ar+Ni collisions at 74 A MeV

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ABSTRACT

Data from the E818 experiment (INDRA and FAZIA detectors) carried out at GANIL are now available. The first analysis of this data was the subject of Mr Alex Rebillard-Soulié's thesis, which was defended in November 2024. This work showed that it is necessary to reconstruct the quasi-projectile precisely in order to be able to deduce all the thermodynamic quantities that will be useful for a future analysis of medium effects in low-density nuclear matter. The analysis will be carried out under root using the KaliVeda protocol developed by the INDRA/FAZIA collaboration. Initially, the trainee will be asked to familiarise himself with the subject (document from the aforementioned thesis) and then to carry out precise isolation work on the various isotopes belonging to the source of the quasi-projectile. The aim of this internship is to characterise the thermodynamic properties (excitation energy, temperature) of this source.