ERASMUS MUNDUS MASTER IN NUCLEAR PHYSICS
Academic Year 2024/2025

MASTER THESIS PROPOSAL

TITLE: **Study of a method for measuring the temperature and multiplicity of neutrons evaporated from fluctuations in the linear momenta or velocities of evaporation residues and evaporated charged particles, using the GEMINI event generator.**

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ABSTRACT

The idea of this internship is to study the influence of the evaporation of a hot nucleus on the width of the momentum and velocity distributions of the evaporation residues and charged particles which have been evaporated. The aim is to find out how the temperature of the hot nucleus can be deduced from the information provided by these distributions as a whole. At the same time, we also want to see how the multiplicity of neutrons evaporated modifies these quantities for a given initial temperature, if we vary the isotopic richness of the initial hot nucleus. To do this, we'll be using the GEMINI event generator, which specializes in simulating the evaporation of hot nuclei.
For further information about this internship, please contact Emmanuel Vient at the above e-mail address.

The internship will take place at LPC Caen. The work will be done using Python language.