



JOINT EUROPEAN MASTER IN NUCLEAR PHYSICS

Academic Year 2025/2026

MASTER THESIS PROPOSAL

TITLE: Project SMILEI (Stored Molecular Ions in Linear Electrostatic Ion trap)

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ABSTRACT

Manipulation of cold molecular ions open the possibility of spectroscopy of well prepared species with application foreseen in molecular physics and in nuclear physics. We propose to use a newly designed linear electrostatic ion beam trap to achieve such experiments. The “open” design of the trap allows for the implementation of laser beam and spectrometer in the field free region between the two ion mirrors.

The internship will focus on commissioning of the apparatus for ion trapping, installation of the laser system and first spectroscopic experiments. The device is located in ARIBE the low-energy ion beam facility of GANIL (Caen). During the internship, the participation to ion-collision beamtimes will be also possible allowing to get familiar with the research activities developed at CIMAP-GANIL.

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