Target stations for S3

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GANIL

S^3 (Super Separator Spectrometer) is a device designed for experiments with the very high intensity stable beams of LINAG, the superconducting linear accelerator of GANIL, which is under construction in the framework of SPIRAL2. These beams, which will provide in a first phase of SPIRAL2 ions with A/q = 3, can reach intensities exceeding 100pμA for lighter ions - A<40-50 - depending on the final choice of the ECR (Electron Cyclotron Resonance) ion source. These unprecedented intensities open new opportunities in several physics domains, e.g. super-heavy and very-heavy nuclei, spectroscopy at and beyond the dripline, isomers and ground state properties, multi-nucleon transfer and deep-inelastic reactions.

In order to cope with very high power dissipation, two specific target stations were studied and designed. We will describe them and report on the studies led with a prototype station where thin different targets were irradiated with GANIL intense beams and were analyzed.