Photofission for the SPIRAL II Project

E. Baron[*], B. Blank, D. Guillemaud-Mueller[#], T. Junquera[#], F. Loyer*, D. Ridikas[f], M.-G. Saint-Laurent[*], D. Soulatges[*], H. Safa[f],

[*]GANIL, 14076 Caen, France
[#]IPN, 91406 Orsay, France
[f]CEA Saclay, 91191 Gif/Yvette, France

Abstract :

The SPIRAL II project at GANIL is aiming at a significant enhancement in the production of some exotic ion over the current state of the art. One very attractive option is the use of a rather compact electron accelerator, taking benefit of the giant dipolar resonance in uranium through photofission. In this paper, a possible layout for the driver accelerator and a preliminary design of the target is sketched. Target calculations including Bremsstrahlung photon spectra and nuclear reactions are presented giving the expected number of fission per second and the corresponding neutron flux. Hence, the estimated exotic beam in-target production is deduced for some typical radioactive neutron rich ions.