

Study of nuclei far from stability by using the CHIMERA 4π detector and radioactive beams at LNS

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At LNS are available radioactive beams in an energy range from few MeV/A to 40 MeV/A. Low energy beams are provided by the EXCYT facility [1]; ⁸Li was already produced with relatively good intensity, and also ⁹Li is available. Intermediate energy beams are produced and selected using the in flight fragmentation method, with the FRIBS system [2]. Using these beams and the 4π detector CHIMERA [3], we want to study excitation and decay of resonances in light exotic nuclei populated with transfer, pick-up and other reaction mechanisms. Measurements concerning ¹⁰Li and ¹¹Be nuclei will be accomplished during 2009. Some preliminary results obtained with stable and unstable beams will be presented.

[1] G.Cuttone et al NIM B261(2007)1040.

[2] G.Raciti et al Phys. Rev. Lett. 100 (2008) 19250.

[3] A.Pagano et al Nucl. Phys. A 734 (2004) 504.