

## **Search for cluster states in $^9\text{Be}$ through the $^8\text{Li}(p, d)^7\text{Li}$ reaction**

We report on a recent measurements of the  $(p, p)$ ,  $(p, \alpha)$  and  $(p, d)$  reactions on  $^8\text{Li}$  at low energies [1]. The experiments were performed using a thick  $[\text{CH}_2]_n$  target and a radioactive  $^8\text{Li}$  beam available at the RIBRAS facility of S˜ao Paulo [2]. These experiments represent an upgrade of a previous experiment [3], where only the  $^8\text{Li}(p, \alpha)^5\text{He}$  cross section was measured. The simultaneous measurement of the excitation functions and the comparison with previous direct  $^7\text{Li}(d, p)^8\text{Li}$  data allows the identification of resonances with cluster structures. The properties of these resonances will be determined by a R-matrix analysis [4]. [1] E. Leistenschneider et al., to be published [2] A. L´epine-Szily, R. Lichtenthˆaler, V. Guimarˆaes, Eur. Phys. J. A 50, 128 (2014) [3] D. R. Mendes et al., Phys. Rev. C 86, 064321 (2012) [4] P. Descouvemont and D. Baye, Rep. Prog. Phys. 73, 036301 (2010)

Search for cluster states in  $^9\text{Be}$  through the  $^8\text{Li}(p, d)^7\text{Li}$  reaction

L´epine-Szily<sup>1</sup>, P. Descouvemont<sup>2</sup>, E. Leistenschneider<sup>1</sup>, D. R. Mendes Jr<sup>3</sup> and the RIBRAS Collaboration

<sup>1</sup> Instituto de F´ısica da Universidade de S˜ao Paulo, Caixa Postal 66318, 05315-970, S˜ao Paulo, SP, Brazil

<sup>2</sup> Physique Nucl´eaire Th´eorique et Physique Math´ematique, C.P. 229, Universit´e Libre de Bruxelles (ULB), B 1050 Brussels, Belgium

<sup>3</sup> Instituto de F´ısica, Universidade Federal Fluminense, Avenida Litoranea s/n, Gragoat´a, Niter´oi RJ 24210-340, Brazil

***Alinka Lepine-Szily (IF-USP)***