Contribution ID: **16** Type: **Invited**

An Analysis of the 18g,m F (d,p)19F Reactions in the Rotational Model*

Monday, 13 May 2019 15:00 (30 minutes)

In this work we discuss the results of a recent HELIOS [1] measurement of the (d,p) reaction on 18F, from both the ground (1+) and isomeric (5+) states, to the members of the 19F ground-state band [2] in the rotational model

We consider the structure of 18,19F in terms of Nilsson single-particle orbits originating from the sd spherical levels coupled to a deformed core, and calculate the (d,p) spectroscopic strengths to 19F from both the ground and isomeric states following the framework reviewed in [3]. Our results show good agreement with the experiment and the shell model.

[1] A. Wuosmaa, et al. Nucl. Instrum. Methods, A580, 1290 (2007).
[2] D. Santiago Gonzalez, et al. Phys. Rev. Lett. 120, 122503 (2018).
[3] B. Elbek and P. O. Tjøm, in Advances in Nuclear Physics,
M. Baranger and E. Vogt eds. (Springer, Boston, MA, 1969).

*This material is based upon work supported by the U.S. DOE, Office of Science,
Office of Nuclear Physics, under Contract No. DEAC0205CH11231.

Primary author: MACCHIAVELLI, Augusto (Lawrence Berkeley National Laboratory)

Presenter: MACCHIAVELLI, Augusto (Lawrence Berkeley National Laboratory)

Session Classification: Session III