

TANDEM ACCELERATOR

Using Coulomb excitation to study the low-lying structure of ^{104}Pd

AGATA + SPIDER

Spokespersons: N. Marchini, A. Nannini, D. Kalaydjieva, I.Z. Piętka

N. Marchini¹, A. Nannini¹, D. Kalaydjieva², I.Z. Piętka³, M. Rocchini¹, P. Aguilera⁴,
G. Andreetta⁴, F. Angelini⁴, M. Balogh⁴, J. Benito⁴, G. Benzoni⁵, D. Brugnara⁶,
G. Colucci³, D. T. Doherty⁷, A. Ertoprak⁸, C. Fahlander⁹, F. Galtarossa¹⁰, P. E. Garrett²,
A. Goasduff⁴, B. Gongora⁴, A. Gottardo⁴, A. Gozzelino⁴, K. Hadyńska-Kłęk³,
G. Jaworski⁶, M. Komorowska³, W. Korten¹¹, A. Krzysiek¹⁴, M. Matejska-Minda¹²,
D. Mengoni^{10,13}, P. Napiorkowski³, R. Nicolas del Alamo⁴, J. Pllumaj⁴,
R. M. Perez-Vidal¹⁵, S. Pigliapoco⁴, E. Pilotto⁴, M. Polettini⁶, L. Prochniak³,
T. Rodríguez¹⁶, M. Siciliano⁸, K. Stoychev², D. Stramaccioni⁴, G. Szymanek¹⁴,
J. J. Valiente-Dobón^{4,15}, K. Wrzosek-Lipska³, L. Zago⁴, M. Zielińska¹¹

¹ INFN Sezione di Firenze, Firenze, Italy. ² University of Guelph, Guelph, Canada. ³ Heavy Ion Laboratory, University of Warsaw, Warsaw, Poland. ⁴ INFN Laboratori Nazionali di Legnaro, Legnaro (Padova), Italy. ⁵ INFN Sezione di Milano, Milano, Italy. ⁶ GSI Darmstadt, Germany.
⁷ University of Surrey, Guildford, UK. ⁸ Argonne National Laboratory, Argonne, USA.
⁹ University of Lund, Lund, Sweden. ¹⁰ INFN Sezione di Padova, Padova, Italy. ¹¹ IRFU, CEA Saclay, Université Paris-Saclay, France. ¹² IFJ-PAN, Kraków, Poland. ¹³ Università degli Studi di Padova, Padova, Italy. ¹⁴ University of Warsaw, Warsaw, Poland. ¹⁵ IFIC, CSIC-Universidad de Valencia, Valencia, Spain. ¹⁶ Universidad Complutense de Madrid, Madrid, Spain.

Abstract

We propose to perform a Coulomb-excitation study of the ^{104}Pd isotope to investigate its low-lying structure. The AGATA array will be used in combination with the SPIDER detector at the INFN Legnaro National Laboratories. Building on previous Coulomb-excitation studies, and complemented by additional recent measurements from our collaboration, the proposed experiment aims at investigating the deformation of the excited 0^+ states in ^{104}Pd , particularly their possible interpretations as part of vibrational multiples or intruder, shape-coexisting states.