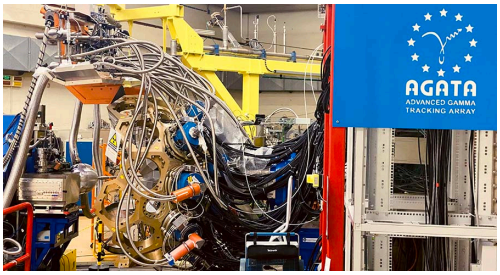

ID de Contribution: **65** Type: **Non spécifié**

Spectroscopy and lifetime measurements toward the Island of Inversion with the AGATA-PRISMA setup

vendredi 13 septembre 2024 09:15 (15 minutes)

We present recent AGATA-PRISMA results on multi-nucleon transfer reactions induced by ²²Ne and ²⁶Mg beams on a ²³⁸U target at LNL. The experiments aim at exploring the boundaries of the N = 20 Island of Inversion by following the evolution of negative parity states originating from fp shell excitations, locating excited intruder configurations, and tracking the development of quadrupole and octupole collectivity toward N = 20. This work is primarily focused on the spectroscopy of Ne and Mg isotopes with neutron number N = 12–18 to benchmark state-of-the-art nuclear structure theories. The experimental setup, comprising the AGATA γ array coupled to the PRISMA magnetic spectrometer, allowed us to detect and identify the ions of interest and measure, in coincidence, γ rays from excited states as well as lifetimes with the DSAM technique. EM transition rates and excitation energies will be compared to state-of-the art theoretical calculations to track the evolution of nuclear structure toward the Island of Inversion. Preliminary results and future perspectives will be discussed.

Auteurs principaux: GENNA, Davide (Università degli Studi di Milano & INFN Sezione di Milano); WIMMER, Kathrin (GSI); Dr BOTTONI, Simone (University of Milano and INFN); BENZONI, giovanna (INFN); AGUILERA, Pablo (Università di Padova, INFN-LNL); RECCHIA, Francesco (University and INFN Padova); DRENT, Floris (GSI)

Co-auteurs: YANEVA, A. (GSI); GIAZ, Agnese (INFN-Milano Università degli studi Milano); GOASDUFF, Alain (INFN-LNL); GOTTARDO, Andrea (LNL INFN); GOZZELINO, Andrea (INFN-LNL); JUNGCLAUS, Andrea (IEM-CSIC); ERTOPRAK, Aysegul (INFN-LNL); BLES, B. (GSI & University of Novi Sad, Serbia); MILLION, benedicte (INFN sezione di Milano); GONGORA SERVIN, Benito (UniFE, LNL-INFN); Prof. FORNAL, Bogdan (IFJ PAN); FERRERA, C. (University of Novi Sad, Serbia); BRUGNARA, Daniele (INFN-LNL); MENGONI, Daniele (University and INFN - Padova); GANDOLFO, E.M. (GSI); PILOTTO, Elia (Università di Padova, INFN-Padova); ANGELINI, Filippo (INFN-LNL, University of Padova); GALTAROSSA, Franco (INFN Sezione di Padova); CORBARI, Giacomo (Università degli Studi di Milano, INFN-Milano); CICONALI, Giulia (University of Milan & INFN Mi); ANDREETTA, Giuseppe (UNIPD, INFN PD); ALBERS, Helena (GSI); Dr ZANON, Irene (Stockholm University); BARDAK, J. (GSI & University of Novi Sad, Serbia); VESIC, J. (Jožef Stefan Institute); BENITO GARCIA, Jaime (Universidad Complutensa & Universidad di Padova and INFN Padova); VALIENTE DOBON, Jose Javier (Laboratori Nazionali di Legnaro (INFN)); PELLUMAJ, Julgen (INFN-LNL); PEDRAZA-ACOSTA, Julio; GERL, Jürgen (GSI); REZYNKINA, Kseniia (INFN-LNL); MD SAZEDUR RAHAMAN, L. (University of Milan & INFN Mi); ISKRA, Ł.W. (Nuclear Physics Institute, Polish Academy of Sciences, Krakow, Poland); CORRADI, lorenzo (INFN - Laboratori Nazionali di Legnaro); ZAGO, Luca (University of Padova, INFN LNL); SFERRAZZA, M. (ULB, Brussel, Belgium); GORSKA, Magdalena (GSI Darmstadt); MATEJSKA-MINDA, Magdalena (Institute of Nuclear Physics, PAN, Cracow); ROCCHINI, Marco (Università degli Studi Di Firenze e INFN Sezione di Firenze); POLETTINI, Marta (Università di Padova); LUCIANI, Massimiliano (University of Milan & INFN Mi); BALOGH, Matus (INFN LNL); SEDLAK, Matus (INFN-LNL); CIEMAŁA, Michał (IFJ PAN Kraków, Polska); JOVANCEVIC, N. (University of Novi Sad, Serbia); CIEPLICKA-ORYNCZAK, Natalia (Institute of Nuclear Physics Polish Academy of Sciences); KITAMURA, Noritaka; ESCUDEIRO, Raphael (INFN-LNL); NICOLAS DEL ALAMO, Raquel (Università di Padova,

INFN-Padova); MENEGAZZO, Roberto (INFN - Sezione di Padova); PEREZ, Rosa (INFN-LNL); CAROLLO, Sara (INFN-LNL); PIGLIAPOCO, Sara (Università degli Studi di Padova); LEONI, Silvia (University of Milano and INFFN Milano); KRÖLL, T. (TU Darmstadt, Darmstadt, Germany); MIJATOVIĆ, Tea (Ruder Boskovic Institute); CHEN, Z. (GSI); KOSIR, G. (Jožef Stefan Institute)

Orateur: GENNA, Davide (Università degli Studi di Milano & INFN Sezione di Milano)

Classification de Session: ACC