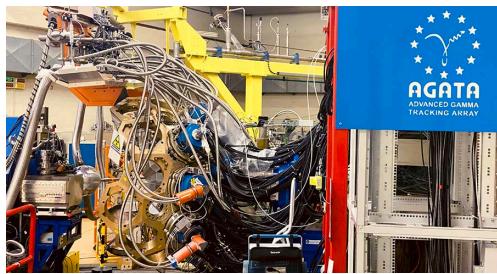


The 24th AGATA Week - ACC Meeting



ID de Contribution: 64

Type: Non spécifié

Report on the AGATA EXP_013 (22.85)

vendredi 13 septembre 2024 13:00 (15 minutes)

Recent calculations have suggested that the region of strong octupole correlations in the light actinides extends to higher Z values than previously thought, with neutron-deficient plutonium ($Z = 94$) and curium ($Z = 96$) nuclei predicted to have large β_3 values in their ground states [1, 2]. In order to test the predictions, an experiment has been performed to study the structure of neutron-deficient plutonium ($Z = 94$) isotopes. The experiment was carried out using the AGATA γ -ray spectrometer [3, 4] together with the PRISMA [5] magnetic spectrometer and the DANTE channel-plate array [6]. The main aim of the experiment was to identify excited states in the isotopes ^{232}Pu and ^{234}Pu . The nuclei of interest were populated using multi-nucleon transfer reactions induced with a beam of ^{112}Sn incident on a thin ^{238}U target. Reaction channels were selected by identifying the beam-like reaction products behind the focal plane of PRISMA and, where possible, detecting target-like products in the DANTE detectors. Analysis of the data is ongoing and the preliminary results will be presented.

This work is supported by Science and Technology Facilities Council, UK, under grants numbered ST/P005101/1 and ST/V001124/1.

References

- [1] Y. Cao et al., Phys. Rev. C. 102, 024311 (2020).
- [2] K. Nomura et al., Phys. Rev. C. 103, 044311 (2021).
- [3] S. Akkoyun et al., Nucl. Instrum. Meth. 668, 26 (2012).
- [4] J. J. Valiente-Dobón et al., Nucl. Instrum. Meth. A1049, 168040 (2023).
- [5] A. M. Stefanini et al., Nucl. Phys. A701, 217 (2002).
- [6] G. de Angelis, AIP Conf. Proc. 1609, 71-76 (2014).

Auteur principal: AYATOLLAHZADEH, Hamid (University of the West of Scotland)

Co-auteurs: Dr KEATINGS, James (University of the West of Scotland); SMITH, John F. (University of the West of Scotland); Mengoni, Daniele (Università di Padova); AGUILERA, Pablo (Università di Padova, INFN-LNL); M. ANDRETTA, Giuseppe (Università di Padova, INFN-LNL); M. ANGELINI, Filippo (Università di Padova, INFN-LNL); BALOGH, Matus (INFN-LNL); BENITO, Jaime (Università di Padova, INFN-LNL); BENTLEY, Michael (University of York); BOSTON, Andrew (University of Liverpool); BOSTON, Helen (University of Liverpool); Dr BOTTONI, Simone (University of Milano and INFN); BOWRY, Michael (University of the West of Scotland); BUTLER, Peter (University of Liverpool); BRUGNARA, Daniele (INFN-LNL); CAROLLO, Sara (INFN-LNL); CHAPMAN, Robert (University of the West of Scotland); CORBARI, Giacomo (Università degli Studi di Milano, INFN-Milano); CORRADI, Lorenzo (INFN - Laboratori Nazionali di Legnaro); DE ANGELIS, Giacomo (INFN-LNL); ERTOPRAK, Aysegul (INFN-LNL); ESCUDERO, Raphael (INFN-LNL); EVERETT, Chris (University of Liverpool); GAFFNEY, Liam (University of Liverpool); GALTAROSSA, Franco (INFN Sezione di Padova); GOASDUFF, Alain (INFN-LNL); GONGORA SERVIN, Benito (UniFE, LNL-INFN); GOZZELINO, Andrea (INFN-LNL); HACKETT, Jack (University of Liverpool); HART, Shannon (Ithemba LABS); HOLLOWAY, Fraser (University of Liverpool); JONES, Peter (Ithemba LABS); JONGILE, Sandile (Ithemba LABS); JUDSON, Daniel (University of Liverpool); LABICHE, Marc (STFC Daresbury Labo-

ratory); LASKAR, Md. S. R. (INFN-Milano); MALATJI, Kgashane (Ithemba LABS); MCCARTER, Adam (University of Liverpool); MONTAGNOLI, Giovanna (Università di Padova); Dr MARCHINI, Naomi (University of Florence, INFN-Florence section); BONDILI, Nara Singh (University of the West of Scotland); NAPOLI, Daniel (INFN-LNL); NICOLAS DEL ALAMO, Raquel (Università di Padova, INFN-Padova); O'DONNELL, David (University of the West of Scotland); PELLUMAJ, Julgen (INFN-LNL); PEREZ, Rosa (INFN-LNL); PIGLIAPOCO, Sara (Università degli Studi di Padova); PILOTTO, Elia (Università di Padova, INFN-Padova); POLETTINI, Marta (Università di Padova); RECCHIA, Francesco (University and INFN Padova); REZYNKINA, Kseniia (INFN-LNL); RINTOUL, Elis (University of Liverpool); ROCCHINI, Marco (Università degli Studi Di Firenze e INFN Sezione di Firenze); SEDLAK, Matus (INFN-LNL); Dr SICILIANO, Marco (Argonne National Laboratory); STEFANINI, Alberto (INFN-LNL); STRAMACCIONI, Damiano; SULLIVAN, Conor (University of Liverpool); VALIENTE DOBON, Jose Javier (Laboratori Nazionali di Legnaro (INFN)); VAN NIEKERK, Ferdi (Ithemba LABS); ZAGO, Luca (University of Padova, INFN LNL); Dr ZANON, Irene (Stockholm University)

Orateur: AYATOLLAHZADEH, Hamid (University of the West of Scotland)

Classification de Session: ACC