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Measurement of the Giant Monopole and Quadrupole Resonances in ⁶⁸Ni using the Maya Active Target

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The study of the Isoscalar Giant Monopole Resonance (ISGMR) and the Isoscalar Giant Quadrupole Resonance (ISGQR) in stable nuclei have provided relevant information on both nuclear matter and nuclear structure in the past decades. For instance, the ISGMR centroid can be linked to the incompressibility modulus of the infinite nuclear matter. Values for exotic nuclei would help in constraining it. In unstable nuclei, only one measurement has been performed to date (in 56Ni)[1]. In order to study the evolution of the ISGMR and the ISGQR along an isotopic chain, measurements in neutron-rich Ni isotopes are called for. To reach this goal, a dedicated experiment was recently performed at GANIL. The inelastic scattering of deuteron and alpha particles on 68Ni at 50 MeV/A has been studied in inverse kinematics with the Maya active target. Preliminary results concerning the inelastic scattering reactions using deuterium gas as the target will be shown. [1] C. Monrozeau et al., Phys.Rev.Lett. 100 (2008) 042501.

Primary authors: Prof. KHAN, Elias (IPN Orsay, Université Paris-Sud, IN2P3-CNRS); Dr GIBELIN, Julien (LPC-ENSICAEN, IN2P3-CNRS et Université de Caen); VANDEBROUCK, Marine (IPN Orsay, Université Paris-Sud, IN2P3-CNRS)

Co-authors: Dr FERNANDEZ-DOMINGUEZ, B. (Universidade de Santiago de Compostela); Dr STODEL, C. (GANIL, CEA/DSM-CNRS/IN2P3); Dr BEAUMEL, D. (IPN Orsay, Université Paris-Sud, IN2P3-CNRS); Dr SUZUKI, D. (IPN Orsay, Université Paris-Sud, IN2P3-CNRS); Dr DELAUNAY, F. (LPC-ENSICAEN, IN2P3-CNRS et Université de Caen); Dr GRINYER, G.F. (GANIL, CEA/DSM-CNRS/IN2P3); Dr BABA, H. (Nishina Center, RIKEN); Dr SAVAJOLS, H. (GANIL, CEA/DSM-CNRS/IN2P3); Dr THOMAS, J.C. (GANIL, CEA/DSM-CNRS/IN2P3); Dr CACERES, L. (GANIL, CEA/DSM-CNRS/IN2P3); Dr CAAMAÑO, M. (Universidade de Santiago de Compostela); Prof. HARAKEH, M.N. (KVI, University of Groningen); Prof. KALANTAR-NAYESTANAKI, N. (KVI, University of Groningen); Dr ACHOURI, N.L. (LPC-ENSICAEN, IN2P3-CNRS et Université de Caen); Dr SORLIN, O. (GANIL, CEA/DSM-CNRS/IN2P3); Dr ROUSSEL-CHOMAZ, P. (CEA-Saclay, DSM); Prof. RAABE, R. (IKS, K.U. Leuven); Dr ROGER, T. (GANIL, CEA/DSM-CNRS/IN2P3); Prof. GARG, U. (Univ. of Notre-Dame, Dep. of Physics); Prof. MITTIG, W. (Dep. of Phys. and Astr. NSCL, MSU)

Presenter: VANDEBROUCK, Marine (IPN Orsay, Université Paris-Sud, IN2P3-CNRS)

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