

INVESTIGATION OF E1 AND PDR STRENGTH IN 70Ni and 64,62Fe AROUND THE THRESHOLD

O. Wieland¹, A. Bracco^{1,2}, F. Camera^{1,2}, R. Avigo^{1,2}, H. Baba³, N. Nakatsuka³, Y. Togano⁴,
and the SUNFLOWER and AGATA collaboration,

¹ INFN sez. di MILANO

² Università degli studi di MILANO

³ RIKEN-RIBF Wako

⁴ Tokyo IT, Tokyo

The structure and nature of the pygmy dipole resonance (PDR) states below and above the neutron threshold is a recent open problem, particularly in exotic, neutron rich nuclei. Present experimental observations give only limited information on this subject. New experiments using different methods are needed. After a pioneering experiment on the exotic nucleus ^{68}Ni [1,2] in 2005 at GSI laboratories two recent measurements at GSI and the RIKEN laboratories on $^{64,62}\text{Fe}$ and the even more neutron rich ^{70}Ni with the AGATA [3] and 4Pi scintillator arrays DALI2 (NaI) + HECTOR+(LaBr3:Ce) setup respectively contribute to solve the open questions.

The experiments were based on relativistic Coulomb excitation together with the detection of the incoming and outgoing particles event by event. The detection of the produced gamma-rays in the reaction, provides insight into the problem of the electric dipole response and E1 strength distribution around particle separation threshold..

REFERENCES

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