

Contribution submission to the conference Bonn 2010

Complete electric dipole response in ^{120}Sn : a test of the resonance character of the pygmy dipole resonance — ●ANNA

MARIA HEILMANN and EPPSO COLLABORATION — TU Darmstadt, Germany

In high-resolution (\vec{p}, \vec{p}') experiments under 0° the complete B(E1) strength distribution can be studied in stable nuclei. At the Research Center of Nuclear Physics in Osaka, Japan, the strength distribution under 0° and observables for the polarization transfer of E1 and M1 excitations in ^{120}Sn were measured in an excitation energy range of 5 – 25 MeV. The systematics of the pygmy dipole resonance (PDR) in stable tin isotopes has been recently studied at the superconducting linear accelerator S-DALINAC in Darmstadt [1]. From this study it was concluded that knowledge of the complete E1 response would be important to differentiate between relativistic and nonrelativistic QRPA models predicting largely different properties of the pygmy dipole resonance. From the present measurement the whole B(E1) strength distribution and the branching ratios of the PDR to ground state can be extracted. The analysis procedure and first results on the E1 strength will be presented .

[1] B.Özel, J.Enders, H.Lenske, P. von Neumann-Cosel, I.Poltoraska, V.Yu. Ponomarev, A.Richter, D.Savran, and N.Tsoneva *submitted to Phys. Lett. B (2009)*.

* Supported by the DFG through SFB 634 and 446JAP 113/267/0-2.

Part: HK
Type: Vortrag;Talk
Topic: Hadronenstruktur und -spektroskopie
Email: heilmann@ikp.tu.darmstadt.de