

Contribution ID: 217



Type: Oral

## Electric and magnetic dipole response in <sup>58</sup>Ni from inelastic proton scattering

*Monday, 20 September 2021 12:00 (20 minutes)* 

Inelastic proton scattering at very forward angles is an excellent tool for studying the dipole response in nuclei [1]. Reactions with intermediate proton energies of a few hundred MeV and scattering angles close to  $0^{\circ}$  are particularly suited to investigate the isovector spin-flip M1 resonance due to the strong spin-isospin dependent part of the effective proton-neutron interaction in this kinematics. Furthermore, the electric dipole response can be measured over a wide excitation energy range. This provides information about the electric dipole polarizability which is related to the neutron-skin thickness and the density dependence of the symmetry energy parameter [2,3].

An inelastic proton scattering experiment with a 295 MeV proton beam on a <sup>58</sup>Ni target was performed at the Reserach Centre for Nuclear Physics (RCNP) in Osaka. A high energy resolution of  $\approx$  20 keV FWHM could be achieved. Electric and magnetic dipole contributions to the cross section were obtained by a multipole decomposition analysis based on DWBA calculations. The dipole strength distribution of <sup>58</sup>Ni has been extensively measured with nuclear resonance fluorescence [4,5] and inelastic electron scattering [6]. A comparison of the different methods sheds light on various features of nuclear structure such as spin and orbital contributions to the magnetic dipole strength and the nature of low-energy electric dipole transitions.

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Supported by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) - Project-ID 279384907 - SFB 1245.

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Session Classification: Session 2

Track Classification: Nuclear Structure, Reactions and Dynamics