

# Recent results on Compton scattering at MAMI and on extraction of the proton polarizabilities

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The electric ( $\alpha_{E1}$ ) and magnetic ( $\beta_{M1}$ ) scalar polarizabilities describe the response of the nucleon to an applied electric or magnetic field. They are not only fundamental properties related to the internal structure and dynamics of the nucleon, but they are important also in other areas of physics, such as atomic structure.

The A2@MAMI Collaboration has recently published the highest statistics Compton scattering data ever measured on the proton, using the Crystal Ball/TAPS setup. These new data, along with two effective field theories and one fixed- $t$  dispersion relation model, were used to extract the two scalar dipole polarizabilities with unprecedented precision.

The impact of the recently obtained results on the extraction of the proton polarizabilities will be also discussed in this talk.

\*On the behalf of A2 Collaboration.

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