

## $\eta'$ beam asymmetry at threshold using the BGO-OD experiment

*Tuesday 11 June 2019 18:00 (20 minutes)*

The unexpected nodal structure of the beam asymmetry recently reported by the GRAAL collaboration in  $\eta'$  photoproduction very close to threshold could be explained by a previously unobserved very narrow resonance. Therefore, the measurement is important to be independently confirmed.

This possibility is offered by the BGO-OD experiment. It is well suited for the detection of forward going charged particles which in the threshold region of interest allows the identification of the reaction  $\gamma p \rightarrow \eta' p$  solely based on the proton going in forward direction. This yields unprecedented statistics if in the missing mass analysis of the  $\eta'$  meson the background can be sufficiently well controlled. A linearly polarized photon beam produced via coherent bremsstrahlung off a diamond radiator makes it possible to measure the  $\eta'$  beam asymmetry.

In this talk I will present preliminary results on the determination of the  $\eta'$  beam asymmetry in several energy and angular bins close to threshold.

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