# Analysing power $A_y$ in the reaction $\vec{p}p \to pp\eta$ near threshold

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Experimental measurements carried out by COSY-11 at the cooler synchrotron COSY in the Research Centre Jülich prioritise studies of near threshold meson production in nucleon-nucleon collisions. Due to the high momentum transfer between the baryons involved such experiments are sensitive to small distances and the relevant interactions. Therefore experiments on meson production enable to understand the fundamental hadronic interaction and the underlying reaction mechanisms.

A study of the influence of higher partial waves succeeds with polarisation observables which are sensible thereon. Besides the spin correlation coefficients the analysing power represents one of these measurands. For its determination the polarisation of one of the two colliding particles is necessary.

First results of the analysing power are presented using data of the reaction $\vec{p}p \to pp\eta$ which have been taken at the experimental facility COSY-11 with a beam momentum of $p_{beam} = 2.096\,\mathrm{GeV/c}$ according to an excess energy $Q = 40\,\mathrm{MeV}$ [1]. A selection of the $pp\eta$ final-state is done via a kinematical complete reconstruction of this three body system. The determination of the relative luminosity of both spin states is based on the simultaneous measurement of the elastic proton-proton scattering at the internal facility EDDA [2].

Individual interference terms of amplitudes of partial waves are determined and enable a comparison with theoretical predictions.

[1] P. Winter, Diploma work, Berichte des FZ Jülich; Jül-3943, 2002.

[2] M. Altmeier et al., Phys. Rev. Lett., 85 (2000) 1819 and F. Bauer, private communication.

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