

New Trends in High-Energy Physics



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Polarization experiments at MAMI and ELSA with Dubna-Mainz frozen spin target

In recent years, many data show the presence of exotic states at low energies, below 2 GeV. Some authors claim about a signature of a new physics.

The Mainz Microtron MAMI is one of the main world facility for investigations in this energy region due to the presence of the high-intensity linearly and circularly polarized photon beams, recoil polarimeters, 4π calorimeter for detection of the final particles, and the tagged photon system with high energy resolution. Last years the facility was updated by a frozen spin target designed in Dubna.

This made it possible to significantly expand the set of experimentally measured polarization observables. Besides, the Dubna-Mainz frozen spin target is used at an electron accelerator, ELSA, in Bonn.

It allows to obtain experimental data at more high beam energy, up to 3.2 GeV.

In this contribution, an overview over recent experiments at MAMI and ELSA with the Dubna-Mainz frozen spin target is given. Observed exotic states are discussed.

The results are compared to different model predictions.

Author: Dr KASHEVAROV, Victor (Mainz University and JINR Dubna)

Co-author: Dr USOV, Yury (JINR Dubna)

Presenter: Dr KASHEVAROV, Victor (Mainz University and JINR Dubna)