

“COMPLETE EXPERIMENT” IN MESON PHOTOPRODUCTION

Gurevich G.M.

(for A2 collaboration)

Institute for Nuclear Research RAS, Moscow, Russia

E-mail: gurevich@cpc.inr.ac.ru

The new generation of meson photoproduction experiments is now being realized at three international laboratories - Jlab (USA), ELSA (Bonn), MAMI (A2 collaboration in Mainz). This extensive program is aimed at the comprehensive description of various individual meson photoproduction channels and requires the measurement of at least 8 thoroughly chosen observables for each channel over a wide energy range.

A review is given of the latest results obtained in the framework of this “complete experiment” program. The world’s first measurements are discussed of the polarization observables T , F , E , G in the photoproduction of π^0 and η mesons as well as $\pi^0\pi^0$ and $\pi^0\eta$ pairs on the protons and deuterons performed by A2 collaboration with the use of circularly and linearly polarized photon beams with maximum energy 1.5 GeV from the MAMI C accelerator and the target with transverse and longitudinal polarization of protons and deuterons. These data form a base for the study of photoproduction dynamics through the amplitude and multipole analyses of individual meson photoproduction channels.