MEASUREMENTS OF THE TENSOR ANALYZING POWER COMPONENT T₂₀ OF COHERENT PHOTOPRODUCTION OF NEUTRAL PION ON TENSOR-POLARIZED DEUTERON AT THE VEPP-3 STORAGE RING

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The experiment on measurements of the tensor analyzing power T_{20} of coherent photoproduction of neutral pion on a tensor polarized deuterium target $(\gamma \rightarrow d'\pi^0)$ is described. Measurements covered two kinematic ranges: the photon energy range $E_{\gamma} = 200 - 500$ MeV and neutral pions emission angle in range = $100^\circ - 140^\circ$, $E_{\gamma} = 200 - 500$ MeV and = $60^\circ - 65^\circ$.

In the experiment we use cryogenic deuterium polarized atomic beam source, manufactured in BINP, which allows to get the thickness of the polarized target $5*10^{13}$ at/cm².

The detectors register deuterons and 1 or 2 photons from π^0 decay in coincidence. Neutral pion detector arm consists of electromagnetic NaI/CsI calorimeter, covering $\Theta = 50^\circ - 150^\circ$ and detect 1 or 2 photons from π^0 decay. Two deuteron detector arms consists of the wire chamber and plastic scintillators, covering $\Theta = 20^\circ - 30^\circ$ and $\Theta = 60^\circ - 70^\circ$.

The measurements of the degree of target polarization and of the experiment luminosity were done by detecting the elastic electron-deuteron scattering at low momentum transfer.

Preliminary results on the measurements of the tensor analyzing power component are presented and are compared with several theoretical predictions.

The work was supported by the Ministry of Education and Science of the Russian Federation, and the Russian Foundation for Basic Research (grant N 13-02-00991-a).