

Abstract Submitted
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Coherent ϕ -meson photoproduction on deuteron TSUTOMU MIBE,
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STEPAN STEPANYAN, CLAS COLLABORATION — Coherent ϕ -meson photo-
production on deuteron is studied in a high-statistics photo-deuteron experiment at
CLAS with a tagged photon beam ($E_\gamma = 0.8 - 3.6$ GeV). The reaction $\gamma d \rightarrow \phi d$
is identified in the $K\bar{K}d$ final state. Because of the iso-scalar target, exchange of
iso-vector mesons (e.g. π exchange) are not allowed. A comparison of cross sections
with proton results would reveal the iso-spin structure of the production amplitudes.
The high luminosity and a wide acceptance of CLAS enable one to measure the co-
herent ϕ photoproduction reaction at large angles for the first time. At large angles,
the ϕ -nucleon cross section ($\sigma_{\phi N}$) can be investigated via a double scattering dia-
gram. Recently, LEPS measured $\sigma_{\phi N}$ from nuclear A-dependence. The $\sigma_{\phi N}$ is large
compared to the quark model prediction. A comparison of $\sigma_{\phi N}$ with the one from
the A-dependence is of great interest in connection with possible medium effect.
Current status of analysis will be reported.

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