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Search for the Θ^+ in the $\gamma d \to K^+K^-p(n)$ reaction[1] TSUTOMU MIBE, D. CARMAN, K. HICKS[2], S. STEPANYAN, Jefferson Lab, CLAS COLLABORATION — A signature indicating the existence of the S=+1 pentaquark state (Θ^+) has been reported in more than ten experiments in a variety of reactions. On the other hand, there are a number of non-observations, mainly from the e^+e^- collider experiments and other experiments at high-energy facilities. The main criticism for the existence of the Θ^+ is the low statistical significance. None of the positive results show a high significance with sufficient statistics. A new experiment to search for the Θ^+ in the photon-induced production on a deuteron has been pursued using the CLAS detector and the tagged-photon facility at Jefferson Laboratory. The integrated luminosity of the new data is about 10 times greater than the previously published CLAS data on a deuterium target. In this talk, an experimental overview and current analysis results for the $\gamma + d \to K^+K^-p(n)$ reaction will be presented.

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