

Abstract Submitted
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Θ^+ **Search in CLAS with $\gamma d \rightarrow pK_s^0 K^-(p)$** ¹ NATHAN BALTZELL,
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A search for photo-production of the $\Theta^+(1540)$ pentaquark in the pK^0 decay mode
was performed with the CLAS detector at Jefferson Lab. About 20,000 $\gamma d \rightarrow$
 $pK_s^0 K^-(p)$ events with photon beam energies 1.6 – 3.6 GeV were fully reconstructed
and kinematically fitted. To investigate the resonant backgrounds, a phenomenological
model including hyperon and meson production has been developed and fitted to the
data with a maximum-likelihood method. The model results serve as a background
to evaluate the existence of a pentaquark signal in the invariant mass of the pK^0
system. The cross-section upper limit on Θ^+ photo-production in this channel will
be reported.

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