

Abstract Submitted
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Hard Photo-disintegration of proton pairs in ${}^3\text{He}$ E. PIASETZKY, I. POMERANTZ, Tel Aviv University, R. GILMAN, Rutgers University, JEFFERSON LAB HALL A E03-101 COLLABORATION — Hard deuteron photo-disintegration has been investigated for 20 years [1], as its cross sections follow the constituent counting rules and it provides insight into the interplay between hadronic and quark-gluon degrees of freedom in high-momentum transfer exclusive reactions [2]. During the summer of 2007, we measured in Jefferson Lab Hall A [3] hard pp -pair disintegration for the first time, in the reaction $\gamma {}^3\text{He} \rightarrow pp + n$, using kinematics corresponding to a spectator neutron. The current state of the analysis and preliminary results will be shown. Clues to the underlying physics can be found in the comparison of our measurements with deuteron photo-disintegration, the energy dependence of the cross sections at 90° c.m., and the α_n distribution.

References:

- [1] R. Gilman and F. Gross, *J. Phys. G* 28, R37 (2002).
- [2] S. J. Brodsky *et al.*, *Phys. Lett. B* 578, 69 (2004).
- [3] <http://hallaweb.jlab.org/experiment/E03-101/>

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