

Abstract Submitted  
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**Hard Photo-disintegration of proton pairs in  $^3\text{He}$** <sup>1</sup> RONALD GILMAN, Rutgers University, ELI PIASETZKY, ISHAY POMERANTZ, Tel Aviv University, FOR THE JEFFERSON LAB HALL A COLLABORATION — Hard deuteron photo-disintegration has been investigated for 20 years, 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. We have now measured for the first time hard  $pp$ -pair disintegration in the reaction  $\gamma\ ^3\text{He} \rightarrow pp+n$ , using kinematics corresponding to a spectator neutron. 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  $90^\circ$  c.m., the  $\alpha_n$  distribution, and the angular distribution.

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