

Abstract Submitted  
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**Study of dimensional scaling in two-body photodisintegration of  $^3\text{He}$** <sup>1</sup> YORDANKA ILIEVA, University of South Carolina, THE CLAS COLLABORATION — Ever since their formulation in 1973, dimensional scaling laws have been extensively exploited to probe short-distance dynamics in nuclear processes. Despite their overwhelming empirical success in describing a large number of nuclear reactions, many of which were measured at low energies, there has been a long-standing controversy in the interpretation of scaling. Recent theoretical developments within the AdS/CFT approach suggest that in the non-perturbative regime of QCD, scaling is due to the near constancy of the strong coupling constant at very low momentum transfer. Thus, probing exclusive processes in this kinematic regime is instrumental to test the validity of the AdS/CFT approach. In this talk I will present our novel experimental studies of dimensional scaling using two-body photodisintegration of  $^3\text{He}$  in which we have mapped the invariant cross section of this process over photon-energy range from 0.4 GeV to 1.4 GeV and center-of-mass angles from  $40^\circ$  to  $140^\circ$ . The data have been taken with the CLAS at Jefferson Lab. The results of our study support a non-perturbative interpretation of scaling at low momentum transfer.

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Yordanka Ilieva  
University of South Carolina

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