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Tagged DIS with BAND: Analysis status TYLER KUTZ, Massachusetts Institute of Technology , SRC COLLABORATION, CLAS12 COLLABORATION — The Backward Angle Neutron Detector (BAND) was designed to detect backward-recoiling spectator neutrons from the deep inelastic scattering (DIS) of electrons off of protons bound in deuterium. The technique of spectator-tagged DIS allows the determination of the protons nuclear modification as a function of virtuality or initial momentum. BAND was installed upstream of the CLAS12 spectrometer in Hall B at Jefferson Lab, and took production data in early 2020.
Recoiling spectator neutrons are identified by their time of flight, requiring precise timing calibration of BAND. Further, the spectator neutrons must be separated from a constant background of random neutron coincidences. The background-subtracted data can then be used to form a ratio of bound to free proton structure as a function of virtuality. This talk will discuss the calibration and analysis of BAND data and present preliminary results based on the available data.

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