

Abstract Submitted
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Using BigBite to Detect DIS Electrons for the MARATHON Experiment TYLER HAGUE, Kent State University — The MARATHON experiment will use the BigBite Spectrometer to extract F_2^n/F_2^p from the inelastic cross section ratio of 12 GeV electrons on the mirror nuclei ^3He and ^3H . The BigBite Spectrometer consists of a series of detectors to detect electrons and an array of electronics (the “Front End”) to create triggers in the Data Acquisition System (DAQ). BigBite uses two multi-wire drift chambers to determine the track of particles passing through it, a scintillator array for timing, and two lead-glass detectors for particle identification and a measurement of energy deposition. The Front End uses a series of logic units to create triggers for the DAQ when certain combinations of detectors fire. In this talk an overview of the detectors of the BigBite spectrometer and its Front End electronics setup will be presented. This work is supported by Kent State University, NSF Grant PHY-1405814, and DOE Contract DE-AC05-06OR23177.

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