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BigBite: A new large acceptance spectrometer for Jefferson Lab Hall A NILANGA LIYANAGE, University of Virginia, BOGDAN WOJTSEKHOWSKI, Jefferson Lab, JEFFERSON LAB HALL A COLLABORATION — A new spectrometer was recently added to the Jefferson lab Hall A experimental setup. This new device, nicknamed Bigbite for its large momentum and angular acceptance, brings new and exciting physics capabilities to Jefferson lab. Bigbite provides a solid angle acceptance of over 75 msr and a momentum acceptance of over 80% and can be operated with luminosities upto $5 \times 10^{36} \text{ cm}^2\text{s}^{-1}$. This newly commissioned spectrometer was recently used for Jefferson lab experiment E02-013; Measurement of the electric form factor of the neutron in the high Q^2 range from 1.2 to 3.5 GeV^2 through $\vec{e}(^3\vec{H}e, e'n)$. The new detector package including a set of Multiwire Drift Chambers, a scintillator plane, pre-shower and shower detectors was constructed for the spectrometer. This detector package allows the spectrometer to operate under high rate conditions with counting rates as high as 20 MHz/wire-chamber-plane while achieve a spatial resolution of $\sigma \sim 200 \mu\text{m}$. Now there is a long list of approved Jefferson lab experiments accounting for more than 100 beam days waiting to use the Bigbite spectrometer.

Nilanga Liyanage
University of Virginia

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