Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

**U-V GEM Design and Development for the SBS at JLab**[1] JOHN BOYD, Univ of Virginia — The success of all experiments in the Super BigBite Spectrometer (SBS) program depend on large area gas electron multipliers (GEMs) which can handle extremely high particle rates. Over the last decade, our research group at the University of Virginia (UVa) has developed and constructed over 50 large GEMs for the SBS. We are developing new U-V GEM trackers that will ensure the success of GEn-RP and other SBS experiments by supplementing "X-Y" trackers already present. The new detectors serve as an additional (front) tracking layer which coordinates using a "U-V" basis (a modified X-Y type basis rotated by 45°). These new GEMs (150 x 40 $cm^2$ active area each) will be the largest in the world. The design of these new GEM chambers is completed, and production of their components is in process. The GEM chambers will be assembled, tested, and characterized at UVa. Upon completion of this initial construction and verification phase at UVa, the GEMs will then be transported to Jefferson Lab where they will be installed and commissioned onto the SBS apparatus to ensure the success of GEn-RP and other SBS experiments.

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Date submitted: 12 Jun 2020 Electronic form version 1.4