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**Simulation Studies of Drift Gas Mixtures for BONuS12 RTPC** NATHAN DZBENSKI, Old Dominion University, GABRIEL CHARLES, CLAS COLLABORATION — The Barely-Offshell Nucleon Structure experiment at 12 GeV (BONuS12) will use a radial time-projection chamber (RTPC) in a magnetic field to study neutron structure functions by deep-inelastic scattering of electrons from deuterium. It will be installed in the CEBAF Large Acceptance Spectrometer (CLAS) in Experimental Hall B at Thomas Jefferson National Accelerator Facility (JLab). The original BONuS6 experiment ran in 2005 with a drift-gas mixture of He-Dimethyl ether (DME). With the 12 GeV energy upgrade concluding at JLab and a new RTPC being developed for use in 2019, ensuring that the gas mixture used is optimal for our experimental needs was a priority. I will present the simuations performed with Garfield++ to identify an inexpensive, non-flammable, drift-gas mixture with fast drift time and small drift angle.

[X] Prefer Oral Session
[ ] Prefer Poster Session

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