

Abstract Submitted
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Characterization and development of position-sensitive multi-wire ionization chambers¹ E. CHEETHAM, ORNL, University of Tennessee, University of Surrey, S.D. PAIN, K.A. CHIPPS, ORNL, K.L. JONES, University of Tennessee, A. RATKIEWICZ, LLNL, H. SIMS, C. UMMEL, Rutgers University, ORRUBA COLLABORATION, GODDESS COLLABORATION — Zero-degree detectors are ubiquitous in radioactive ion beam experiments, both for separation of forward-focussed recoils and beam normalization. Ionization chambers are well-suited to this role, as they are robust under heavy ion bombardment and can be operated at typical radioactive ion beam intensities. A fast (capable of mid 10^5 ions/s) multi-wire ionization chamber with a stacked electrode design was built at Oak Ridge National Laboratory in 2019. The modular detector, which is sufficiently compact to be operated within GODDESS, incorporates two position-sensitive anodes to determine position as an ion enters the detector. An upgraded version is planned incorporating more position-sensitive anodes, thereby increasing count rate capacity and enabling particle tracking throughout the detector. An update on the development of this chamber will be presented, along with a characterization of the response of the existing detector from an experiment at the ReA3 facility at the NSCL.

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