

Abstract Submitted
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Developing a fast ionization chamber for transfer reaction studies¹ K.Y. CHAE, D.W. BARDAYAN, M.S. SMITH, Oak Ridge National Laboratory, K.T. SCHMITT, S.H. AHN, University of Tennessee at Knoxville, W.A. PETERS, Oak Ridge Associated Universities, S. STRAUSS, Rutgers University — Detection of beam and beam like recoils at far forward angles is often critical for radioactive beam measurements in inverse kinematics. Gas-filled ionization chambers are well suited for these applications, since they have moderately good energy resolution and can take prolonged exposure to beam compared to fragile semiconductor detectors. Conventional ion counters using a Frisch grid, however, have slow response times because the ionized electrons must travel long distances to the anodes. To reduce response times, a fast ion counter using a tilted window and tilted electrodes was developed and tested at ORNL's Holifield Radioactive Ion Beam Facility, modified from an original design by Kimura et al. [1]. The maximum counting rate and energy resolution, along with future plans for using the new ion counter, will be presented.

[1] K. Kimura et al., Nucl. Inst. Meth. Phys. Res. A 538, 608 (2005).

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