

Abstract Submitted
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Determination of Target Cell Window Thickness Using X-Ray Attenuation. MIKHAIL GAERLAN, JAMES DUNNE, RONALD UNZ, Mississippi State Univ — This project aims to use x-rays produced from a radioactive Am-241 source to measure the thickness of the target cell window used in the recently completed Qweak experiment at the Thomas Jefferson National Facility Accelerator in Virginia. The aluminum windows that will be measured are very thin, on the scale of a tenth of a millimeter. The advantage of using x-rays to measure thickness is that the measurement requires minimal physical and mechanical interference with the material and should be capable of sub-1% accuracy on the thickness measurement. Reducing this uncertainty on the window thickness is very important to the Jefferson Lab Qweak final result. In addition, one could consider this project as a seed program to building the capacity at MSU to potentially measure all future target windows for Jefferson Lab experiments.

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