

Abstract Submitted  
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**A Study of Bremsstrahlung Produced From Solid Gold Films**

SCOTT WILLIAMS, C.A. QUARLES, Texas Christian University — We report the results of our on-going study of the thickness-dependence of bremsstrahlung from solid gold film targets. The incident electrons' energy is approximately 53 keV, and we have collected data from angles of 90 and 135 degrees. Target thicknesses ranging from  $66 \mu\text{g}/\text{cm}^2$  (where single interaction conditions apply) to more than twice the electron range (where a multiple interaction model applies) were studied. With this data, we can observe the transition from thin to thick film spectra, and compare it to data obtained using the Monte Carlo simulation, PENELOPE. This comparison could reveal whether there is any polarizational bremsstrahlung contribution for solid film targets. We also present results for the absolute doubly-differential cross section for the thin-film targets and compare the results with predictions of both ordinary bremsstrahlung and total bremsstrahlung including a polarizational contribution calculated in the stripping approximation.

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