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**Recent progress in polarization bremsstrahlung from thin-film and gas targets** RYAN HAYGOOD, SCOTT WILLIAMS, C.A. QUARLES, Texas Christian University — We are continuing to investigate polarization bremsstrahlung (PB) in both thin-film and free gas atom targets. PB has been observed in recent gas target experiments at 28 and 50 keV on Ar, Kr and Xe. These results contrast with many earlier experiments on bremsstrahlung from thin-film targets in which no PB has been observed. We report initial results of a study of the target thickness dependence of thin films to investigate whether PB is suppressed in solid targets as a function of thickness. We also report initial investigation of a background, not previously considered, that can occur with gas targets but is not significant for thin-film targets. At the energies of the gas target experiments, this background is mainly from Rayleigh scattering in the extended gas target cell of the photon spectrum produced by electron scattering into beam collimators, the Faraday cup and target chamber walls not directly seen by the detector.

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