Abstract Submitted
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Raman studies of crystallization and photo-darkening in HARP a-Se targets[1] R.E. TALLMAN, B.A. WEINSTEIN, Physics Department, SUNY at Buffalo, NY, A. REZNIK, J.A. ROWLANDS, Sunnybrook Women's College Health Science Center, Toronto, M. KUBOTA, K. MIYAKAWA, Y. OHKAWA, K. TANIOKA, NHK Science and Technical Labs., Tokyo, T. KAWAI, Hamamatsu Photonics, Tokyo — The build-up of light-induced defects in the a-Se targets of High-gain Avalanche Rushing Photoconductor (HARP) cameras is important for the robustness of these detectors. Recent experiments show that the photo-induced dark spots in HARP targets exhibit irreversible and reversible components, i.e., spot transparency is only partly restored by heating to 35C, ∼1C below the a-Se glass transition.[1] We report Raman studies of laser(2mW HeNe)-induced crystallization in a-Se camera targets. The rate of increase in the trigonal c-Se Raman intensity (233 cm^{-1} peak) is measured *vs.* exposure time for local temperatures in the range 25 – 65 C, as found from Stokes-to-anti-Stokes ratios. Lateral- and depth- profiling by optical microscopy easily correlate the Raman-detected crystallization regions with visual damage. Further studies *vs.* temperature and HARP-target usage are in progress to unravel the damage mechanisms. [1] A. Reznik *et. al.*, submitted to J. Non-Cryst. Solids

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