

Abstract Submitted
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Optimization of cold K-alpha emission using copper foams AMINA HUSSEIN, University of Michigan, ABBAS NIKROO, General Atomics, FRED ELSNER, Lawrence Livermore National Lab, JONATHAN HAGER, KIRK FLIPPO, Los Alamos National Lab — Experiments were conducted at the Trident Laser Facility to increase the conversion efficiency of short-pulse, copper K-alpha x-ray backlighter sources. New target designs using copper foams are in development to investigate the role of underdense/near-critical density targets on the optimization of cold K-alpha emission. K-alpha emission was measured using Highly Ordered Pyrolytic Graphite (HOPG) and imaged with a toroidally bent quartz crystal to determine uniformity, spatial resolution and conversion efficiency of the new designs. Results from this experiment will help inform the development of short-pulse Cu K-alpha back-lighters on facilities like Omega, OmegaEP and the NIF, with a particular emphasis on creating advanced narrow-band backlighter sources capable of producing strong signal to noise with high x-ray fluxes.

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