

Abstract Submitted
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Absolute Calibration of X-ray Filters Employed By Laser-Produced Plasma Diagnostics GREGORY BROWN, PETER BEIERSDORFER, JOEL CLEMENTSON, JIM EMIG, Lawrence Livermore National Laboratory, MIRIAM FRANKEL, Imperial College, MING GU, UC Berkeley Space Science Lab, ROBERT HEETER, ED MAGEE, Lawrence Livermore National Laboratory, DANIEL THORN, GSI, KLAUS WIDMANN, Lawrence Livermore National Laboratory — The electron beam ion trap (EBIT) facility at the Lawrence Livermore National Laboratory is being used to absolutely calibrate the transmission efficiency of X-ray filters employed by diodes and spectrometers used to diagnose laser-produced plasmas. EBIT emits strong, discrete mono-energetic lines at appropriately chosen X-ray energies. X rays are detected using the high-resolution EBIT calorimeter spectrometer (ECS), developed for LLNL at the NASA/Goddard Space Flight Center. X-ray filter transmission efficiency is determined by dividing the X-ray counts detected when the filter is in the line of sight by those detected when out of the line of sight. Verification of filter thickness can be completed in only a few hours, and absolute efficiencies can be calibrated in a single day over a broad range from about 0.1 to 15 keV. An overview of these activities will be discussed. Prepared by LLNL under Contract DE-AC52-07NA27344.

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