

Abstract Submitted
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Advanced processing of spectrally-resolved core images from OMEGA direct-drive implosions¹ TAISUKE NAGAYAMA, ROBERTO MANCINI, RICARDO FLORIDO², TIRTHA JOSHI, University of Nevada, Reno, Department of Physics, RICCARDO TOMMASSINI, Lawrence Livermore National Laboratory, JACK DELETTREZ, SEAN REGAN, Laboratory for Laser Energetics, University of Rochester — We discuss the processing of spectrally-resolved core images from argon-doped, deuterium-filled OMEGA direct-drive implosions. Spectrally-resolved images were recorded by a DDMMI instrument which consists of a pinhole array, a multi-layer Bragg mirror, and an x-ray framing camera with micro-channel plates. The pinhole array creates a large number of object images each one of them characteristic of a slightly different wavelength range, which are then recorded by a gated framing camera. Thus, DDMMI yields data that are resolved in wavelength, space, and time. DDMMI data can be processed to extract broad and narrow-band core images, as well as space-integrated and space-resolved spectra. These data are important for determining the spatial structure of the implosion core.

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