

Performance of gated x-ray imaging diagnostics on the LMJ facility

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The Laser MegaJoule (LMJ) facility at CEA near Bordeaux (France) operates since 2014 to investigate the interaction of high-power lasers with matter. Two Gated X-ray Imaging (GXI) diagnostics (3 mm and 15 mm field of view) are routinely used on the experimental campaigns to provide temporal and spatial resolution, broadband, 2D images of the plasma in the 1-15 keV energy range [1]. These imaging systems are based on microscopes that include x-ray grazing incidence mirrors with multilayer coatings, pinholes, and refractive lenses. Each diagnostic is equipped with an x-ray gated detector consisting of a microchannel plate to record the images. Prior to each campaign, the assessment of the diagnostics performance is required using dedicated shots. This includes alignment, timing, spatial resolution and signal level. The diagnostics performance will be presented.

[1] R. Rosch, Rev. Sci. Instrum. **87**, 033706 (2016).