

Abstract Submitted
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Developing New X-ray Diagnostic Methods for HED Hydrodynamic Experiments¹ KIRK FLIPPO, ALEX RASMUS, ELIZABETH MERRITT, TIFFANY DESJARDINS, CARLOS DI STEFANO, FORREST DOSS, DANIEL BARNAK, BEN TOBIAS, CODIE FIEDLER KAWAGUCHI, SASIKUMAR PALANIYAPPAN, JOSH SAUPPE, THOMAS ARCHULETA, RAY GONZALES, Los Alamos National Laboratory, CAROLYN KURNAZ, University of Michigan — HED Hydrodynamic and Laboratory Astrophysics experiments are notoriously difficult to diagnose with anything other than x-rays, either by self-emission or backlighting. LANL has been working on several methods to enhance and extend x-ray diagnostics for our laser-driven HED experiments. These include stereoscopic image reconstruction and multi-frame image reconstruction using Bayesian techniques to reduce noise, remove parallax, and produce 3D images for better statistics and deeper understanding of the images. We present the results of these techniques as applied to the HED hydrodynamic experiments performed by LANL.

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