

Abstract Submitted  
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**Further enhancements to the Single Line Of Sight x-ray framing camera to study the dynamics of the fuel-ablator interface of Inertial Confinement Fusion capsules.**<sup>1</sup> CLEMENT TROSSEILLE, EMILY HURD, Lawrence Livermore Natl Lab, KYLE ENGELHORN, General Atomics, CASSANDRA DURAND, GARETH HALL, Lawrence Livermore Natl Lab, CHRISTINE KRAULAND, General Atomics, MATTHEW DAYTON, ANDREW MACPHEE, ARTHUR CARPENTER, SABRINA NAGEL, Lawrence Livermore Natl Lab — The Single Line Of Sight (SLOS) framing camera has been used in conjunction with the Crystal Backlighter Imager at the National Ignition Facility to capture radiographs of an imploding ICF capsule with temporal and spatial resolutions never achieved before. By doing so, it has enabled physicists to study the hydrodynamic instabilities at the fuel-ablator interface and better understand one of the major obstacles on the path to ignition. X-ray imaging with SLOS comes with unique challenges, as image quality (signal to noise ratio) and image fidelity (linearity) both impose conflicting requirements on the desirable photocurrent established inside the drift tube. In this presentation, we will discuss the origin of these limitations and will present the alternatives that have already been implemented, as well as future ones, to achieve even better image quality both in the SLOS camera and in future SLOS-like systems.

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