

Abstract Submitted
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Specular reflectivity in high contrast relativistic laser-plasma interactions¹ G. ELIJAH KEMP, The Ohio State University, LLNL, ANTHONY LINK, LLNL, ROBERT FEDOSEJEVS, University of Alberta, RICHARD R. FREEMAN, The Ohio State University, FARHAT N. BEG, UCSD, HAL FRIESEN, University of Alberta, DREW P. HIGGINSON, UCSD, LLNL, MIKE H. KEY, HARRY S. MCLEAN, PRAV PATEL, YUAN PING, LLNL, DOUGLASS W. SCHUMACHER, The Ohio State University, RICHARD B. STEPHENS, General Atomics, HENRY F. TIEDJE, YING Y. TSUI, University of Alberta — We describe a study of the relativistic electron source generated at both under-dense and over-dense plasma interfaces with relativistic laser pulses. The experiment was performed on Titan at the Jupiter Laser Facility at LLNL using planar targets with high contrast 527 nm wavelength laser pulses (created using second harmonic generation from the fundamental) with controllable additional injected pre-pulse energy. We use specularly reflected pulse properties to compare the experimental results with 2D3v Cartesian particle-in-cell simulations (using the hybrid code LSP) to infer interface effects on the relativistic electron generation.

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