

Abstract Submitted
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Study of Implosion in Wire Arrays with UV interferometry and Faraday Rotation Diagnostics¹ AUSTIN ANDERSON, DANIEL PAPP, SARA ALTEMARA, VLADIMIR IVANOV, University of Nevada, Reno — The implosion stage in wire arrays was studied with UV interferometry and Faraday rotation diagnostics at the wavelength of 266 nm implemented at the 1 MA Zebra pulsed power generator at UNR. Al cylindrical, star, and planar wire arrays were investigated. UV interferometry allows direct study of electron plasma density $> 10^{20}$ cm⁻³. Measurement of higher density is limited by spatial resolution, plasma motion, and plasma opacity at 266 nm. The density of the non-imploded plasma was measured at different times during the implosion stage. The first results from the UV Faraday rotation diagnostics are presented. Comparison of Faraday images with shadowgrams and interferograms allow measurement of current in the imploding plasma and non-imploded material in wire arrays.

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