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First Results of the Comparison of Double Planar Foils and Wire Arrays on the Low Impedance Z-Pinch Michigan's LTD generator.¹ V.L. KANTSYREV, A.S. SAFRONOVA, I.K. SHRESTHA, V.V. SHLYAPTSEVA, C.J. BUTCHER, A. STAFFORD, K.A SCHULTZ, University of Nevada, Reno, P.C. CAMPBELL, S. MILLER, D.A. YAGER-ELORRIAGA, N.M. JORDAN, R.D. MCBRIDE, R.M. GILGENBACH, University of Michigan — The results of first experiments with Al double planar foil liners (DPFL) at the University of Michigan's low impedance Linear Transformer Driver (LTD) MAIZE generator are presented. The DPFL is a promising alternative load to wire arrays on future 40-60 MA generators. Last decade, there was a significant progress in efficient, repetitive Z-pinch generators such as the LTD for prospective ICF research. Though we have recently presented the results on the Planar Wires Arrays (PWAs) on MAIZE, there is no data collected yet for DPFLs on LTD machines. Diagnostics include x-ray Si-diodes, a Faraday cup, x-ray pinhole cameras and spectrometers, and an ultra-fast 12-frame self-emission imaging system. Implosion and x-ray radiative characteristics of Al DPFLs (two planes 1.8 m thick and 3.5 mm wide placed at 3 mm) are analyzed in detail and compared with data from Al double PWAs and results on Al DPFLs obtained early at high impedance generator. Experimental data demonstrate successful implosion of DPFL on LTD and therefore set the direction of the new work with thin foils.

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Victor Kantsyrev University of Nevada, Reno

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