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Recent Numerical Studies of High-Z Plasma in the HyperV Plasma Guns L. WU, HyperV Technologies Corp., M. PHILLIPS, Advanced Energy Systems, Inc., F.D. WITHERSPOON, HyperV Technologies Corp. — Previous numerical studies on plasma jets at HyperV Technologies focused mainly on carbon/hydrogen plasmas, since ablative polyethylene was the main source of plasma in the experiments to date. However, recent interest in using high-Z plasmas to form imploding plasma shells for MIF and other HEDP applications, has led us to begin modeling high-Z gases such as argon and xenon in the HyperV plasma gun geometry. The computational work is performed on our new cluster using the latest version of Lsp, which provides some more efficient algorithms that allow for longer gun simulation times. Numerical studies on hydrogen plasma with this improved code have shown more accurate results. Ablation and secondary (or restrike arcs) are also being investigated to determine their effect on the plasma dynamics. Results of these simulations will help provide benchmarking data for planned experiments. Work supported by the U.S. DOE Office of Fusion Energy Sciences.

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