Abstract Submitted
for the DFD20 Meeting of
The American Physical Society

Examining unsteady drag of shocked micro-droplets with narrow particle size distribution KYLE HUGHES, ADAM MARTINEZ, JOHN CHARONKO, KATHY PRESTRIDGE, Los Alamos National Laboratory — Previous experiments of shock-accelerated micro-droplets suffered from a wide range of sizes that prevented an accurate measurement of the drag coefficient. The experimental setup has since been improved to provide a narrow range of micro-droplets that are more suitable to statistical averaging. An eight-pulse particle tracking diagnostic measures individual particle positions, and a shadowgraph system measures shock location, with pressure transducers providing shock speed at the test section. These diagnostics give us detailed measurements of particle positions versus time for Mach 1.2, 1.3 and 1.4 experiments, allowing us to calculate accelerations and drag.

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Date submitted: 30 Jul 2020 Electronic form version 1.4