Abstract Submitted
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Oblique Shock Interaction with a Gas Cylinder[1] ROSS WHITE, JOSEPH CONROY, MICHAEL ANDERSON, PETER VOROBIEFF, C. RANDALL TRUMAN, The University of New Mexico, SANJAY KUMAR, University of Texas - Brownsville — In the majority of shock-tube studies of Richtmyer-Meshkov instability, when a planar shock interacts with a perturbed density interface, the orientation of the interface plane or the largest interface feature (e.g., axis of a gaseous column) is parallel to the plane of the shock. Here we experimentally study the flow developing after an interaction of an *oblique* shock wave with a gravity-stabilized cylindrical heavy gas (SF_6) column surrounded by less dense gas (air). To introduce an oblique angle into the initial conditions, we tilt the shock tube to an angle of 15° with respect to the horizontal. Flow visualization in several planes is conducted to highlight the differences between the features characterizing planar and oblique shock-cylinder interaction. Several flow structures peculiar to oblique interaction appear to exist over a range of Mach numbers from 1.2 to 2.1.

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