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Laboratory Study of High- β Plasma Shock Waves.
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Cornell University.--A plasma wind tunnel has been used
to generate shock waves at rest in the laboratory
reference frame. The upstream pressure ratio β is in the
range 1 to 3, and the Mach number based on the fast
magnetosonic wave speed is 3 to 5. The shock wave is
formed by letting the plasma "wind" impinge on the field
of a magnetic obstacle. The resulting shock is primarily
transverse, and exhibits a thickness of 1 to 1.5 times
the ion inertial length (c/ω_{pi}). The shock thickness de-
creases with increasing Mach number, and increases as
the ion mass is increased. Magnetic fluctuations in the
shock front are observed, with frequencies near the ion
gyral frequency. These results are compared with those
of related experiments.

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