RADIAL FOIL EXPERIMENTS ON COBRA WITH IMPOSED EXTERNAL B-FIELD

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Previous investigations of exploding radial foils have shown the formation of an axial plasma jet with velocities ~100km/s in the early stages of the foil explosion. In this case a thin load foil is pressed at an outer annulus held at ground, and contacted in the center by a small straight pin cathode (~1mm in diameter) driven by the 1MA COBRA accelerator. The field near the jet was measured using miniature B-dot probes at 3T. Present experiments focus on the jet development when an externally produced static B-field is applied. Configurations of interest include: B-field in parallel with the jet direction, and B-field applied in the direction transverse to the jet.

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