Effects of different strapping field profiles on plasma loop expansion\textsuperscript{1} BAO NGUYEN QUOC HA, PAUL BELLAN, Caltech — The hoop force causes arched, current-carrying plasma loops to expand unless additional forces are applied. This expansion was slowed and even inhibited by a magnetic field of proper polarity in previous solar coronal loop experiments [1] but there was no attempt to reproduce the slow expansion to fast eruption behavior often exhibited by solar loops. The transition from a slow expansion to a fast eruption is predicted to depend on the strapping field altitude decay profile [2] which is sensitive to the planar distance to the source of the strapping field [3]. The coils are mounted on 3 axis adjustable stands that provide precision placement of the coil relative to the plasma. Preliminary data on the interaction between the plasma and specified strapping field profiles will be presented.

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