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Test of an Indirect Drive Asymmetric Target Suitable for Fast Ignition¹ R.B. STEPHENS, General Atomics, S.P. HATCHETT, R.E. TURNER, LLNL, K.A. TANAKA, ILE, K. THORP, J. ARMSTRONG, LLE — We have compared the compression of an indirectly driven cone-in-shell target, a type proposed for the fast ignition concept, with models. The experimental parameters — 500 μm diameter plastic shell with 60 μm thick wall, were 1/5 scale realization of a fast ignition target designed for NIF (absorbing 180 kJ NIF for compression and ~ 30 kJ for ignition, and yielding ~ 30 MJ).² The implosion was backlit with 8 keV x-rays, and observed with a framing camera which captured the implosion from ~ 2.6 to 3.3 ns after the onset. The shell was dense enough to be seen in the last half of the sequence, from which we could derive a variety of parameters — implosion velocity, stagnation time, stagnation density and rough measures of symmetry — to compare to the model predictions.

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²S. Hatchett, et al., 5th Workshop on Fast Ignition of Fusion Targets (Satellite workshop of 28th EPS Conf. on Controlled Fusion and Plasma Physics), Madeira, Portugal, 2001.

Prefer Oral Session
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