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Target Injection By Electrostatic Acceleration,* R.K. Friend, *Washington & Lee U.,* R.W. Petzoldt, E. Valmianski, *General Atomics,* L. Carlson, J. Stromsoe, *UCSD,* J. Hares, *Kentech Instruments* – For a direct drive IFE source, the fuel targets must enter the reaction chamber with precise velocity so that they may be accurately irradiated. In this work, a system of electrostatic rings provides acceleration and also enables steering of the target during acceleration. A charge is first placed on the fuel target. Optical fibers mounted on each accelerator electrode trigger a voltage jump in that ring when the target breaks their path. Every third ring will be connected in parallel and accelerating voltage will be advanced as the target passes each electrode. A laser backlights the target along its injection trajectory creating a Poisson spot in the shadow of the fuel target. This spot is used to track the transverse position of the target. Two of the three phases will have rings that are split to allow transverse direction control. Up to ±5 kV accelerating voltage between electrodes will be utilized to achieve 15-20 m/s in 0.9 m.

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