# Laser Ignition of an Isentropically Compressed Dense *Z*-Pinch

F. Winterberg

Department of Physics, University of Nevada, Reno, U.S.A.

Reprint requests to Prof. F. W.; Fax: (775) 784-1398

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A dense *z*-pinch generated by a high voltage discharge over a corrugated helical sawtooth-shaped capillary tube with a solid DT core, is by shear flow stabilized against the $m=0$ and $m=1$ magnetohydrodynamic instabilities, and by rotational flow against the Rayleigh-Taylor instability. The shear- and rotational flow result from jet formation by the corrugated surface. A programmed voltage pulse can then isentropically compress the DT core to high densities, and if ignited at one end by a petawatt laser pulse, a thermonuclear detonation wave can be launched propagating along the *z*-pinch channel. The proposed *z*-pinch burn should also work without tritium as a thermonuclear detonation wave in deuterium.