

Propagating Thermonuclear Burn by Laser Ignition of a Dense Z-Pinch

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A linear pinch discharge above the Pease-Braginskii current and stabilized by axial shear flow can radiatively collapse to high densities. A thermonuclear detonation wave can then be launched from one end of the discharge channel by ignition with a powerful laser pulse. Axial shear flow stabilization may be realized by injecting a fast moving jet along the pinch discharge channel, possibly in combination with a frozen DT fiber positioned on the pinch axis.

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