# Fast Fission Assisted Ignition of Thermonuclear Microexplosions

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It is shown that the requirements for fast ignition of thermonuclear microexplosions can be substantially relaxed if the deuterium-tritium (DT) hot spot is placed inside a shell of U-238 (Th-232). An intense laser – or particle beam-projected into the shell leads to a large temperature gradient between the hot DT and the cold U-238 (Th-232), driving thermomagnetic currents by the Nernst effect, with magnetic fields large enough to entrap within the hot spot the $\alpha$-particles of the DT fusion reaction. The fast fission reactions in the U-238 (Th-232) shell implode about $1/2$ of the shell onto the DT, increasing its density and reaction rate. With the magnetic field generated by the Nernst effect, there is no need to connect the target to a large current carrying transmission line, as it is required for magnetized target fusion, solving the so-called "stand off" problem for thermonuclear microexplosions. – PACS number: 28.52.-s.

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