

FAST IGNITION HEAVY ION FUSION TARGET BY JET IMPACT*

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Fast ignition[1] targets usually require two energy sources, one for the compression of the target and the other to start the ignition in the compressed target. We present a design based on the same principles as the laser driven fast ignition but only using one drive, either laser or heavy ion beam. The idea is to transform part of the X ray energy from the hohlraum cavity to generate a high speed, medium density jet[2]. This jet will collide with the compressed target starting the ignition of the DT fuel. The design is composed by two cones, one to produce the jet by cumulative effect, and the other to guide spherically the target.

Several configurations are studied in order to increase the efficiency of the process, and other designs based on this will be presented and briefly analyzed. We have performed numerical simulations of these designs with the Arwen code[3], an AMR Radiation Transport code.

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- 3 F. Ogando and P. Velarde, *Development of a Radiation Transport Fluid Dynamic Code Under AMR*, *JQSRT* 71 541 (2001)