

Optimizing the Structure of Fast Ignition Targets

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A central hot spot IFE target generates its ignition spark in a low density, high temperature core. Fast ignition targets, which are ignited on the outside surface, have no need for that. On the contrary, such a center will lower the burn efficiency by forcing the nuclear burn to follow a longer path around the outside rather than straight across the core. Yet that center is difficult to avoid. Even if the central space begins as a vacuum, the initial shock wave from compression will release some gas into the central space when it reflects off the interior surface. We will present some estimates of the size of the problem, and possible strategies for mitigating it.