MODELS OF GAIN CURVES FOR FAST IGNITION *

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We consider gain curves for Fast Ignition that have the following ingredients: hydrodynamic efficiency of the implosion for a range of drive intensities, density of the assembled fuel resulting from the reflected shock produced at the culmination of the implosion, effective particle range produced in the laser-plasma interaction as well as the heat capacity of the ignition region as determined by Atzeni. The dependence of the gain curves on the coupling efficiency from ignition laser to fuel, allowed in-flight-aspect-ratio, compressed fuel density profile and fraction of implosion energy in the compressed fuel is shown. In addition the fraction of the total driver energy devoted to the ignition driver that maximizes the gain is shown. These estimates will be made for systems where the implosion is directly driven with a laser of various colors or indirectly with various drivers.