

Abstract Submitted
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Two-dimensional kinetic simulations of hot-spot ablator mix¹

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A kinetic Vlasov-Fokker-Planck model allows 2D simulations to assess the effect of carbon ablator mix in the ICF hot-spot. We compare the case of uniform diffusive mix with that of an equal carbon mass localized in a Rayleigh-Taylor spike. Steep temperature gradients lead to a kinetic reduction of fusion reactivity. Inflow towards the mix spike increases the alpha particle stopping power, until it acts as a barrier and heat sink for alpha particles. This makes localized mix more damaging than uniformly distributed mix. The neutron spectrum becomes broadened, with line of sight variations.

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