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**Rayleigh-Taylor Instability Growth Control in HIF** YUYA HISATOMI, SHIGEO KAWATA, SHUNSUKE KOSEKI, TATSUYA KUROSAKI, ALEXANDER OGOYSKI, DAISUKE BARADA, UTSUNOMIYA UNIV. TEAM, VARNA TECH. UNIV. TEAM — Uniformity of heavy ion beam (HIB) illumination is one of key issues in HIB inertial confinement fusion (HIF): deviation from fuel implosion symmetry should be less than a few percent in order to compress a fuel sufficiently and release fusion energy effectively. In this paper a new mitigation method of the Rayleigh-Taylor (R-T) instability growth is presented in order to make a HIF target robust against a non-uniform implosion. In this study a new mitigation method of the R-T instability growth is proposed based on an oscillating perturbed acceleration, which can be realized by a rotating or oscillating HIB illumination onto a fuel pellet. The R-T instability analyses and fluid simulations demonstrate that the oscillating acceleration reduces the R-T instability growth significantly. In this paper a baseline steady acceleration g is perturbed by a perturbed oscillating acceleration g1, which is spatially non-uniform and oscillates in time (g >> g1 ). An example result shows 84% reduction of the R-T instability growth.

Yuya Hisatomi

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