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Influence of the dopant structure of CH capsule on the development of mix at the fuel-ablator interface in ICF implosions on the NIF.[1] LAURENT MASSE, TILO DOEPPNER, DENISE HINKEL, BENJAMIN BACHMANN, ROBIN BENEDETTI, CHRISTINE KRAULAND, MIKE MACDONALD, JOSEPH RALPH, DANIEL THORN, KLAUS WIDMANN, LAURENT DIVOL, DEBBRA CALLAHAN, OMAR HURRICANE, Lawrence Livermore Natl Lab, LAWRENCE LIVERMORE NATL LAB TEAM — NIF implosions show, across the different platform currently used, a lack of shell compression as compared to the numerical predictions. Different hypothesis could explain such disagreement. The growth of high mode mix at the fuel-ablator interface is one of them. To analyze the impact of high mode mix at the fuel-ablator interface on the shell compression the Atwood number at this interface is varied by modifying the atomic fraction of the Si doping of a set of similar CH capsules. The DT fuel mix fraction varies accordingly with the Atwood number from no mix to entirely mixed. We present here the experimental results and the corresponding numerical simulations of this dopant scanning. We show how the shell compression varies with the fuel-ablator mix. The other sources of degradation are discussed as well and compared to the high mode mix.

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