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Role of kinetic nonlinearities in Raman scatter in NIF ignition targets¹ BRUCE LANGDON, DENISE HINKEL, BERT STILL, DAVID STROZZI, EDWARD WILLIAMS, Lawrence Livermore National Laboratory — Raman scattered light generated over the capsule in an ignition target propagates back towards the laser entrance hole (LEH). Along this path, several millimeters in length, the light may undergo a further Raman decay; the resulting rescattered light will not likely be observable outside the hohlraum. In the LEH region, where many incoming beams overlap, the Raman scattered light may also undergo further amplification, driven by the intensity of the overlapped beams. We analyze kinetic simulations along the lengthy beam path, between LEH and capsule, for the role of nonlinearities, including “inflation” and hot electron production.

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