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**Two- and Three-Dimensional Kinetic Simulations of Stimulated Raman Scatter in NIF Ignition Conditions**[1] B. LANGDON, B. STILL, D. HINKEL, B. LASINSKI, D. STROZZI, E. WILLIAMS, Lawrence Livermore National Laboratory — Multidimensional simulations of stimulated Raman scatter (SRS) are performed in plasma conditions derived from the region identified in pF3d simulations as the principal site of SRS activity. These may be the first large speckle-scale particle-in-cell simulations of SRS in NIF ignition conditions, in this case for a 285 eV point design: $n_e = 10^{21}/\mathrm{cm}^3$, $\mathrm{T}_e = 2$ keV, $\lambda_0 = 0.351$ $\mu$m, speckle intensity $I \sim 10^{15}$ W/cm$^2$. A principal finding is that the Langmuir transverse modulational instability (1) plays a major role in limiting SRS in ignition targets by wavefront bowing and breakup, disrupting the spatial coherence of the Langmuir waves that reflects light. This effect was previously demonstrated in simulations (2) under quite different conditions, with lower $\mathrm{T}_e$ and higher $I\lambda_0^2$. We analyze its energetic significance and the heated electron distributions in the context of NIF ignition. (1) H. Rose, Phys. Plasmas 12, 012318 (2005). (2) L. Yin, B. Albright, K. Bowers, W. Daughton, and H. Rose, Phys. Rev. Lett. 99, 265004 (2007); Phys. Plasmas 15, 013109 (2008).

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