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Investigation of Stimulated Raman Scattering Using a Short Pulse Single Hot Spot at the Trident Laser Facility D.S. MONTGOMERY, J.L. KLINE, K.A. FLIPPO, R.P. JOHNSON, T. SHIMADA, B.J. ALBRIGHT, H.A. ROSE, L. YIN, Los Alamos National Laboratory, E.A. WILLIAMS, Lawrence Livermore National Laboratory — A new short-pulse version of the single-hot-spot configuration has been implemented to enhance the performance of experiments to understand Stimulated Raman Scattering. The laser pulse length was reduced from $\sim$200 to $\sim$4 ps. The reduced pulse length improves the experiment by minimizing effects such as plasma hydrodynamics and filamentation of the interaction beam. In addition, the shortened laser pulses allow full length 2D particle-in-cell simulations of the experiments. Using the improved single-hot-spot configuration, a series of experiments to investigate $k\lambda_D$ scaling of SRS has been performed. Details of the experimental setup and initial results will be presented.

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