

Abstract Submitted
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**Anomalous Heated Electrons Due to Stimulated Raman
Rescattering for Parameters Relevant to the National Ignition Facility¹**

J.E. FAHLEN, B.J. WINJUM, F.S. TSUNG, W.B. MORI, UCLA — We show via one- and two-dimensional particle-in-cell simulations using the code OSIRIS how stimulated Raman backscattering (SRBS) of stimulated Raman forward scattered (SRFS) light can generate hot electrons for parameters relevant to the National Ignition Facility. The plasma wave from the rescattering process can generate electrons with energies greater than 50 keV by trapping and accelerating electrons from the original backscatter. Furthermore, in some cases electrons that are heated through rescattering can be subsequently trapped and heated by the SRFS plasma wave, even though the phase velocity of the SRFS plasma wave is high enough that SRFS alone would not trap electrons in the background electron distribution. In these cases 0.4-1.0 MeV electrons can be generated.

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