Abstract Submitted
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Modeling SRS and its Hot Electrons as they occur within Ignition Scale Hohlraums[1] MORDECAI ROSEN, JUDY HARTE, DENISE HINKEL, RICHARD TOWN, HOWARD SCOTT, GEORGE ZIMMERMAN, ED WILLIAMS, DEBRA CALLAHAN, PIERRE MICHEL, CLIFF THOMAS, DAVID BAILEY, LLNL — We utilize a package within the Lasnex code that can generate Stimulated Raman Back Scatter (SRS) light within the hohlraum. The user can specify the amount of SRS backward propagating light, its frequency, and the density at which the process occurs. In addition, the user can specify how the remaining energy, which in reality resides initially within the electron plasma wave (EPW), is to be modeled. Choices include a) ignoring the EPW and simply continuing to propagate the rest of the laser energy forward, b) local thermal energy deposition, or c) putting it into a super-thermal hot electron distribution. The level and spectrum of these hot electrons can also be chosen. Thus, we can model either the main SRS component of $\sim$ 100 kJ at $\sim$ 20 keV, or the super-hots of $\sim$ 1 kJ and 80 keV. The hot electrons are transported in a diffusive, quasi isotropic manner. We present preliminary results using these various deposition models, reporting on capsule implosion symmetry and on the x-ray spectrum emitted from the Au excited by the hot electrons. The need to model the hot electron transport more as beaming along the direction of the EPW is raised.

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