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Compton Scattering in Ignited Thermonuclear Plasmas[1] FREDERIC HARTEMANN, CRAIG SIDERS, CHRIS BARTY, LLNL — Inertially confined, ignited thermonuclear D-T plasmas will produce intense blackbody radiation at temperatures T $\sim$ 20 keV; it is shown that the injection of GeV electrons into the burning core can efficiently generate high-energy Compton scattering photons. Moreover, the spectrum scattered in a small solid angle can be remarkably monochromatic, due to kinematic pileup; peak brightness in excess of 10^{29} photons/(mm^2 x mrad^2 x s x 0.1% bandwidth) are predicted. Electron focusing of the γ-rays could produce electromagnetic fields exceeding the Schwinger critical field.

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