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Backward crossed-beam energy transfer in indirect-drive ignition hohlraums[1] DAVID TURNBULL, PIERRE MICHEL, JOSEPH RALPH, LAURENT DIVOL, ANDREA KRITCHER, JOHN MOODY, Lawrence Livermore National Laboratory — NIF has recently fielded near-vacuum hohlraums (NVHs) with lower gas fill density (.03mg/cc) than the earlier point design (.96mg/cc). Improved early time beam propagation can allow laser "glint" from inner cone beams to exit the opposing laser entrance hole. This light appears on the backscatter diagnostics with numerous features enabling its discrimination from typical backward Stimulated Brillouin Scattering (SBS). Near time zero, we infer signal levels and durations consistent with previous work. The presence of transmitted light also raises the possibility of inter-hemisphere seeding of scattered light, which we refer to as backward Crossed-Beam Energy Transfer (bCBET). Previously, there was no evidence of this process on indirect-drive targets, although it is understood to have a major impact on direct-drive targets. However, the NVHs produce relatively large SBS signals that appear on the inner cone backscatter diagnostics at peak power and carry signatures indicative of bCBET. Upcoming experiments will attempt to clarify whether it is seeded scattering as well as which beams are providing the energy in these signals.

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