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Indirect Drive Holhraum Performance Using Cocktail Materials¹ JONES, MORDECAI ROSEN, SIEGFRIED JOCHEN SCHEIN, OGDEN GLENZER, EDUARD DEWALD, LAURANCE SUTER, RUSSELL WALLACE, JANELLE GUNTHER, OTTO LANDEN, BRUCE HAMMEL, Lawrence Livermore National Laboratory, GREGORY ROCHAU, Sandia National Laboratory, HEATHER WILKENS, General Atomics — Indirect drive coupling efficiency between laser energy in and capsule absorbed energy depends to a large degree on the ability to mitigate wall losses in the hohlraum. One approach to do this is based on the use of hohlraum wall materials with overlapping absorption bands to absorb and re-emit the radiation that otherwise would be lost. Albedos and conversion efficiencies for various combinations of these materials, so-called cocktails, have been calculated and a mixture of U, Dy and Au has been determined to be the best candidate. A series of experimental campaigns are performed at the Omega Laser Facility in Rochester to test the performance of cocktails coated hohlraums versus pure Au hohlraums. The campaign uses 20kJ of laser energy to drive well characterized hohlraums and the difference in soft x-ray drive is measured using a soft x-ray spectrometer (DANTE). Experimental results will be presented testing our understanding of high-Z cocktail radiation properties.

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