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Investigating Hohlraum Laser-Entrance-Hole Physics at the National Ignition Facility with the Quartraum Platform[1] D. E. HINKEL, J. D. SALMONSON, M. B. SCHNEIDER, M. D. ROSEN, Lawrence Livermore Natl Lab — The quartraum platform is a high-Z cylinder with a back window (or wall) which is typically one-quarter the length of a full hohlraum deployed at the National Ignition Facility (NIF). When coupled to NIF geometry, laser beams enter through a laser entrance hole (LEH) located on the cylinder endcap opposite the back wall, blow down the window covering that LEH, and propagate into the target, which is filled with helium gas. NIF's outer beams strike the inside of the barrel of the cylinder, and the inner beams strike the back wall. Thin-wall imaging techniques are utilized to deduce laser intensity at the walls of the quartraum through a calibration of laser-to-x-ray intensity.[1] This platform is under consideration as a vehicle to research laser entrance hole physics, provided such a platform can briefly emulate plasma conditions in an ignition target at the laser entrance hole. Results and design analyses will be presented, with proposed improvements and enhancements. [1] L. A. Pickworth *et al.*, High Energy Density Physics **23** (2017) 159-166.

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