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High Foot Implosion Experiments in Rugby Hohlraums JOSEPH RALPH, LLNL, J.-P. LEIDINGER, CEA/DAM, D CALLAHAN, LLNL, P. KAISER, O. MORICE, D. MARION, CEA/DAM, J.D. MOODY, J.S. ROSS, P. AMENDT, A.L. KRITCHER, J.L. MILOVICH, D. STROZZI, D. HINKEL, P. MICHEL, L. BERZAK HOPKINS, A. PAK, E.L. DEWALD, L. DIVOL, S. KHAN, R. RYGG, O. HURRICANE, LLNL, LAWRENCE LIVERMORE NATIONAL LAB TEAM, CEA/DAM TEAM — The rugby hohlraum design is aimed at providing uniform x-ray drive on the capsule while minimizing the need for crossed beam energy transfer (CBET). As part of a series of experiments at the NIF using rugby hohlraums, design improvements in dual axis shock tuning experiments produced some of the most symmetric shocks measured on implosion experiments at the NIF. Additionally, tuning of the in-flight shell and hot spot shape have demonstrated that capsules can be tuned between oblate and prolate with measured velocities of nearly 340 km/s. However, these experimental measurements were accompanied by high levels of Stimulated Raman Scattering (SRS) that may result from the long inner beam path length, reamplification of the inner SRS by the outers, significant (CBET) or a combination of these. All rugby shots results were achieved with lower levels of hot electrons that can preheat the DT fuel layer for increased adiabat and reduced areal density. Detailed results from these experiments and those planned throughout the summer will be presented and compared with results obtained from cylindrical hohlraums. This work performed under the auspices of U.S. Department of Energy by Lawrence Livermore National Lab under Contract DE-AC52-07NA27344.

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