Utilizing proton bang time and areal density measurements for diagnosing NIF implosions

R. PETRASSO, H. RINDERKNECHT, F. SEGUIN, J. FRENJE, C. LI, A. ZYLSTRA, M. ROSENBERG, N. SINENIAN, M. MANUEL, D. CASEY, C. WAUGH, MIT, V. GLEBOV, C. STOECKL, C. SANGSTER, J. KNAUER, P. MCKENTY, R. BETTI, LLE, A. MACPHEE, A. MACKINNON, D. HICKS, J. RYGG, O. LANDEN, S. FRIEDRICH, M. MORAN, M. ECKART, LLNL — J. KILKENNY, A. NIKROO, GA, R. OLSON, R. LEEPER, SNL, D. WILSON, LANL — In NIF D\textsuperscript{3}He implosions, measurements of shock-bang time and associated areal density, including possible P\textsubscript{2} asymmetries, will lead to important insights for guiding the NIF-capsule-tuning campaign. In concert with simulations and essential information from other diagnostics, such as those measuring the remaining ablator mass, implosion velocity, compression-bang time, ion temperature, etc, a comprehensive understanding of these implosions can be discerned. In this presentation, we report on the status of this work, which is supported in part by US DOE, LLNL, LLE and FSC.