## Abstract Submitted for the DPP20 Meeting of The American Physical Society

Development of the MagRT Experimental Platform on the NIF M.J.-E. MANUEL, General Atomics - San Diego, S. NAGEL, B.B. POLLOCK, E.G. CARROLL, D. KALANTAR, K.S. RAMAN, Lawrence Livermore National Laboratories, C. SAMULSKI, B. SRINIVASAN, Virginia Polytechnic Institute and State University, Z. BARBEAU, University of Central Florida, B. ALBERTAZZI, G. RIGON, M. KOENIG, Laboratoire Pour LUtilisation des Lasers Intenses - CNRS, A. CASNER, Centre Lasers Intenses et Applications — Magnetic fields can play an important role in the evolution of hydrodynamic instabilities in many different physical systems. Of particular interest are the Richtmyer-Meshkov, Rayleigh-Taylor (RT), and Kelvin-Helmholtz instabilities, as all three are relevant to fusion concepts and astrophysical systems, such as the interaction of shock waves with interstellar clouds and in the shells of supernova remnants. This talk will cover progress on the development of an experimental platform on the National Ignition Facility (NIF) to study magnetized hydrodynamic instabilities, with particular interest towards blast-wave-driven RT instabilities. Physics constraints high-lighted by previous experiments performed at Laboratoire pour L'Utilisation des Lasers Intenses (LULI) will be briefly discussed. This material is based upon work supported by the U.S. Department of Energy, Office of Science Financial Assistance Program under Award DE-SC0020055 and the Office of Fusion Energy Sciences High-Energy-Density Laboratory Plasma Science Program under DE-SC0018993.

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