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Temporally Resolved Measurement of X-ray Radiation using DIXI, a Pulse-dilation Enhanced Gated Framing Camera S.R. NAGEL, P.M. BELL, D.K. BRADLEY, M.A. BARRIOS, J. EMIG, J.R. HUNTER, G.W. COLLINS, Lawrence Livermore National Laboratory, T.J. HILSABECK, J.D. KILKENNY, T. CHUNG, B. SAMMULI, General Atomics, J.D. HARES, A.K.L. DYMOKE-BRADSHAW, Kentech Instruments Ltd. — We present the first time resolved x-ray measurements from DIXI, a new diagnostic instrument which will be fielded at the NIF in the next year. DIXI utilizes pulse-dilation technology [1] to achieve x-ray imaging with temporal gate times below 10 ps. Performance characterization measurements using x-ray illumination were conducted using the COMET laser facility at the Lawrence Livermore National Laboratory. Results from these short pulse laser driven plasma experiments are given along with comparisons to other x-ray diagnostic instruments. Lawrence Livermore National Laboratory is operated by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy, National Nuclear Security Administration under Contract DE-AC52-07NA27344. Work supported by U.S. Department of Energy under Contract DE-AC52-06NA27279. LLNL-ABS-490815.

[1] T. J. Hilsabeck et. al., Rev. Sci. Instrum., 81, 10E317, (2010)

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