Abstract Submitted
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Dilation X-ray Imager (DIXI): A Sub-10ps X-ray Framing Camera for the NIF[1] T.J. HILSABECK, J.D. KILKENNNY, T. CHUNG, B.S. SAMMULI, General Atomics, J.D. HARES, A.K.L. DYMOKE-BRADSHAW, Kentech Instruments Ltd, P.M. BELL, D.K. BRADLEY, S.R. NAGEL, Lawrence Livermore National Laboratory — We have constructed a microchannel plate based x-ray framing camera which utilizes pulse-dilation technology [1] to achieve temporal resolution below 10 ps. The design is suitable for fielding at the National Ignition Facility and can operate in a high yield neutron environment. Here, we present the instrument design specifications and construction details along with data from calibration experiments performed with femtosecond laser pulses in the ultra-violet. We will also discuss the capabilities of pulse-dilation imaging and further applications in high energy density plasma physics experimentation.

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

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