

Abstract Submitted  
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**Kirkpatrick-Baez Microscope for Hot-electron Transport Imaging in Fast Ignition Experiments** H. FRIESEN, Y.Y. TSUI, R. FEDOSEJEVS, Univ Alberta, K.U. AKLI, R.B. STEPHENS, GA, M.S. WEI, H. SAWADA, S. CHAWLA, N. NAKANII, D.P. HIGGINSON, F.N. BEG, UCSD, D. HEY, S. LE PAPE, A. MACPHEE, C.D. CHEN, Y. PING, M.K. KEY, H. MCLEAN, P. PATEL, A. MACKINNON, LLNL, E. KEMP, A. LINK, D.W. SCHUMACHER, R.R. FREEMAN, L.D. VAN WOERKOM, OSU — H. TIEDJE, A. ALI, N. VAFAEI-NAJAFABADI, Univ Alberta, T. MA, L. JARROT, D. MARISCAL, C.W. MURPHY, B. WESTOVER, B.S. PARADKAR, T. YABUUCHI, UCSD - K-alpha emission from tracer layers is a powerful diagnostic for quantitatively measuring the generation and transport of MeV electrons in studies of Fast Ignition Fusion. We are developing a Kirkpatrick-Baez microscope for such experiments at the Titan Laser Facility using grazing incidence platinum coated mirrors together with metal filters to detect copper K-alpha emission from tracer layers in planar and cone-wire targets. The instrument performance has been modeled using ray tracing and characterized by a cw x-ray source. Broadband multilayer grazing incidence mirrors are also being designed for both copper K-alpha and silver K-alpha imaging. The characteristics of the KB microscope and initial experimental results on electron transport will be presented.

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