Investigation of particle beams in 1-MA wire array z-pinches by Faraday cups

A.A. MOROZOV, A. HABOUB, V.V. IVANOV, V.I. SOTNIKOV, R. PRESURA, A.L. ASTANOVITSKIY, T. JARRETT, V. NALAJALA, S.D. ALTEMARA, C.M. THOMAS, University of Nevada, Reno — A single Faraday cup and a linear array of cups were applied to investigate generation of particle beams in implosions of wire arrays in the 1-MA Zebra generator. The linear array includes five Faraday cups placed on the length of 16 mm and provides measurements of particle beams with spatial and temporal resolution. Cylindrical, nested and star-like arrays were investigated with focus on generation of electron beams. Experimental results are compared with different models of generation of particle beams. Work was supported by the DOE/NNSA under UNR grant DE-FC52-06NA27616.