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Observation of Beam Spot Dynamics During LIA Shot

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Dynamics of beam spot on high Z target is key quality factor of LIA radiographic machines [1]. To obtain direct observation of beam spot evolution during the LIA shot the experimental procedure with time resolution of tens of nanoseconds was introduced [2]. It based on pinhole camera and scintillator with segmented structure. In this report the measurements of beam spot dynamics on the 2 MeV LIA constructed by BINP are presented [3]. Principally, diagnostic was based on the same approach as mentioned above. The detector had array of pixels with cruciform structure. Each pixel was made from discrete plastic scintillator (NE101-like) for time resolution. Several modes of beam spot dynamics were observed during the shot. The interrelation between dynamical focusing and defocusing of the beam and prehistory of Ta target was registered.

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