

Abstract Submitted  
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**Experimental Results from Plasma Shell on Deuterium Gas-puff Z-pinch on the Current Level of 3 MA**<sup>1</sup> K. REZAC, D. KLIR, P. KUBES, J. KRAVARIK, FEE CTU in Prague, A. SHISHLOV, A. LABETSKY, V. KOKSHENEV, N. RATAKHIN, IHCE in Tomsk, GIT-12 TEAM — The experiments with a plasma shell on deuterium gas-puff Z-pinch were carried out on the GIT-12 generator at IHCE in Tomsk. We diagnosed Z-pinch shots with deuterium linear mass of about 100  $\mu\text{g}/\text{cm}$ . The outer shell of the load was formed by 48 plasma guns positioned on diameter of 350 mm, the diameter of the nozzle producing deuterium inner shell gas-puff was 80 mm. Results obtained from X-ray and neutron diagnostics, especially neutron time-of-flight signals, where 15 MeV neutrons (in radial direction) and 22 MeV neutrons (in axial direction) were registered, are presented. Obtained implosion velocity of the gas-puff had the value of  $4.5 \times 10^7 \text{cm/s}$ , neutron yield from  $\text{D(d,n)}^3\text{He}$  reaction was in order of  $10^{12}$  neutrons/shot on a current level of about 2.7 MA. The time correlations of the TOF diagnostics with other diagnostics such as electrical characteristics, an MCP frames, and a visible streak camera are also presented.

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