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Comparison of Deuterium-Deuterium and Neon-Deuterium-Deuterium Triple Shell Gas-Puff Z-pinch on the Level of 3 MA¹ K. REZAC, DANIEL KLIR, P. KUBES, J. KRAVARIK, FEE CTU in Prague, A. SHISHLOV, A. LABETSKY, N. RATAKHIN, IHCE Tomsk, GIT-12 TEAM — The experiments of a triple shell gas-puff Z-pinch were carried out on the GIT-12 generator at IHCE in Tomsk during the April-May-June campaign in 2012. We diagnosed 17 Z-pinch shots where the triple D_2 - D_2 - D_2 (with the linear mass in the range of 50 - 255 μ g/cm) and Ne- D_2 - D_2 (with the linear mass in the range of 110 - 285 μ g/cm) gas-puffs with diameter of 160 mm / 80 mm / 30 mm were mostly used as loads. This contribution is focused on the comparison of the results obtained by X-ray and neutron diagnostics, especially to the difference in reconstructed neutron energy spectra and obtained neutron yields (with the maximum of 3.3 × 10¹¹¹ neutrons/shot on a current level of 2.5 MA). The time correlations with other diagnostics such as electrical characteristics, a visible streak camera and MCP frames are also presented.

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