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**Neutron Diagnostics of a Deuterium Gas-Puff Z-pinch on the Level of 3 MA**[1] KAREL REZAC, DANIEL KLIR, PAVEL KUBES, JOZEF KRAVARIK, FEE CTU in Prague, ALEXANDER SHISHLOV, ALEKSEY LABETSKY, NICOLAI RATAKHIN, IHCE in Tomsk, GIT-12 TEAM — The diagnostics of a deuterium gas-puff Z-pinch (outer shell with diam. of 100 or 80 mm, inner annular with diam. of 30 mm or solid-fill shell with diam. of 20 mm with linear mass varied in each shell in the range of 25 – 40 $\mu$g/cm) is presented. The experiments were carried out on the GIT-12 generator at IHCE in Tomsk (2.5 MJ bank energy, load current of 2.8 MA with the rise time of 250 ns) during the April-May campaign in 2011. Results from the neutron time-of-flight diagnostics including the determination of the neutron production time and reconstructed radial energy spectra are shown. Several methods which provided measurement of the total neutron yield indicated the number of neutrons in order of $10^{11}$ per one shot. The time correlations with other diagnostics such as electrical characteristics, soft X-rays, hard X-rays and a visible streak camera are also presented.

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