

Abstract Submitted
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X pinch experiments on the table-top MINI-generator¹ T.A. SHELKOVENKO, S.A. PIKUZ², D.A. HAMMER, Cornell University, I.N. TILIKIN, A.R. MINGALEEV, P.N. Lebedev Physical Institute, S.A. CHAIKOVSKY, P.N. Lebedev Institute — The MINI-generator, a 340 kA peak current, 170 ns rise-time, 40-50 kV, pulsed power generator with energy storage of 1 kJ, was designed and built at the High Current Electronic Institute (Tomsk, Russia). The generator is 45 cm diameter, 33 cm high and weights about 80 kg. The main goal was to design a table-top generator for use with X pinches to create a point source of soft x-ray radiation for radiography of plasma and biological objects. The first experiments with X-pinch loads performed in P.N. Lebedev Physical Institute (Moscow, Russia) showed that the MINI-generator has very high efficiency in transformation of a stored energy to radiated energy of an X-pinch hot spots in the range of 1 to 5 μm diameter, depending on the photon energy range. Results obtained in X-pinch experiments on MINI-generator and the XP-generator (0.5 MA, 45 ns risetime) at Cornell University will be compared.

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