

Abstract Submitted
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Early stage of a hybrid X-pinch plasma formation¹ IVAN N. TILIKIN, TATIANA A. SHELKOVENKO, ALBERT R. MINGALEEV, SERGEY N. MISHIN, VERA M. ROMANOVA, ALEKSEY E. TER-OGANESYAN, SERGEY A. PIKUZ, P. N. Lebedev Physical Institute — A hybrid X pinch (HXP) configuration consisting of solid conical electrodes connected by a wire has been successfully tested in different conditions on different pulsers. But the physics of the process of single hot spot formation in HXPs is not yet understood. In order to understand the physical processes that occur in the HXPs we are carrying out an in-depth investigation of the physics of HXPs. To begin to understand this process, experiments with lower level load current have been performed. Pulsers with 10 and 4 kA current were used to study the prepulse influence on the HXP formation. Early stages of HXP formation have been studied also on the BIN pulser (250 kA, 100 ns) with 70 kA current through the HXP placed in the BIN return current circuit. Point-projection x-ray radiography and laser shadow and shlieren imaging together with interferometry were used in the experiments.

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