

Abstract Submitted
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Theoretical study of the dynamics of highly-radiating plasmas, produced at 1 MA Zebra generator ANDREY ESAULOV, VICTOR KANTSYREV, ALLA SAFRONOVA, University of Nevada, Reno — MHD modeling of highly radiating plasmas, produced by the x- pinch and wire array loads at 1 MA Zebra generator at the University of Nevada Reno is conducted to support the ongoing experimental campaigns and to facilitate the design and optimization of the future experiments with the increased radiation output. The MHD simulations and the predictions, given by the analytical models, show that the x-ray diagnostic complex, developed at the University of Nevada Reno is perfectly fit to the parameters of high energy density plasmas, produced at Zebra. Direct comparison of the theoretical data with experimental results demonstrates the consistency of the used MHD models. On the other hand, these models provide the new interpretation for the experiments, revealing the valuable information, which is hidden from traditional optical diagnostics of plasma.

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