# MHD SIMULATION OF WIRE ABLATION AND IMPLOSION IN WIRE-ARRAY Z-PINCH*

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We present magnetohydrodynamic (MHD) simulation of ablated tungsten wire in the wire-array Z-pinch on MAGPIE[1] using the GORGON code[2]. The simulation is incorporated with theoretical models of equation-of-state and electrical conductivities for nonideal plasmas[3] in addition to an astrophysical model for radiation cooling effects[4]. The dynamic behaviors of exploding wire plasma are demonstrated in a two-dimensional domain during the early stage of Z-pinch implosion. The computed profiles of electron density are compared with data measured by laser interferometer, which shows a rough agreement in terms of the order of magnitude. Possible reasons for the discrepancies are briefly discussed in relation with the employed theoretical models of plasma properties.

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