

# Numerical simulation of experiments with non-ideal plasma at 247-MeV proton microscope

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A radiographic facility for an investigation of fast dynamic processes with areal density of targets up to 5 g/cm<sup>2</sup> is under development on the basis of high-current proton linear accelerator at the Institute for Nuclear Research (Troitsk, Russia). A virtual model of the proton microscope developed in a software toolkit Geant4 is presented. Fullscale Monte-Carlo numerical simulation of static radiographic experiments at energy of a proton beam 247 MeV was performed. The results of simulation of proton radiography experiments with the shock-compressed non-ideal xenon are presented. The results of visualization of copper and polymethyl methacrylate step wedges static targets also described.