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Selection of Reference Material and Type of Its Isentropic Curve in Experiments on Isentropic Compression of Substances in Multi-Megabar Pressure Range¹ GENNADY BORISKOV, NIKOLAY EGOROV, V. TIMAREVA, Russian Federal Nuclear Center - VNIIEF — Experimental geometry on isentropic compression of frozen gases in a facility based on a magneto-cumulative generator MC-1 is described. A goal of the experiments is building a "zero" isentropic curve in a pressure range higher 1 Mbar. A radiographing of a studied and reference samples, located in the compression chamber, is carried out during the compression process. A density of the studied sample is determined based on the measured sizes obtained in the result of the x-ray images analysis. Using the sizes of the reference sample and its isentropic curve one can determine the pressure in the studied sample taking into account a gradient correction. Selection of aluminum as the reference material and type of its isentropic curve is explained. The experimental results are compared with the calculation results made using different isentropic curves of Al.

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