

# X-ray measurements in experiments on constructing equations of state of substances

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Pulse radiography was widely used in the development of the megagauss-range explosive magnetic field generator (MC-1). It is also successfully used to construct equations of state of substances in the megabar pressure range using devices based on MC-1. The essence of the radiographic method lies in measuring the density of the test and reference substances. For this purpose, during the experiment, radiography of the compression chamber is performed at one of the moments in time when the substances are compressed to megabar pressure. The compression of the test and reference substances is determined from the images of the chamber and samples inside it obtained on X-ray photographs. Now, knowing the initial densities of the test and reference substances, their densities in the compressed state are calculated. And based on the density of the reference using its known isentrope, the pressure in it is determined and thereby (after taking into account small gradient corrections) in the test substance.