

**DIRECT MEASUREMENTS OF THE SOUND SPEED AND
ITS DEPENDENCE ON DENSITY AND PRESSURE FOR
EXPANDED LIQUID LEAD**

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We are developing an experimental technique for direct measurements of the speed of sound in expanded liquid metals at the temperatures up to 30 kK and pressures of 0.3 – 3.0 GPa. Such thermodynamic states are achieved in the exploding foils experiments [1]. Earlier, we have presented a detailed description of the measurement technique [2], as well as some preliminary results on the speed of sound in liquid lead [3]. In the present work, we discuss an improvement of this technique, which made it possible to achieve sufficiently good reproducibility of the measurement results and determine the dependence of the sound speed of liquid lead not only on density but also on pressure.

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