

Abstract Submitted
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Investigation of near critical point states of lithium, sodium and aluminium by pulse heating during launching¹ DMITRY NIKOLAEV, VLADIMIR TERNOVOI, ALEXEI PYALLING, SERGEY KVITOV, VLADIMIR FORTOV, IPCP RAS — The results of experimental investigation of near - critical point states of liquid-vapour phase transition of of lithium, sodium and aluminium are presented. The metal foil samples were launched by explosively driven steel plate in Helium atmosphere; Li and Na – by direct impact and Al – by impact through the layer of helium. The heating of the Li and Na foils were performed by heat exchange with shocked He layer from the free side of sample; Al – by heating by multiple-shocked He from the back side of the foil [1]. The temperature of sample surface was measured by fast multi-channel optical pyrometer. The 1-D simulation of the process of launching was performed. The obtained experimental information allowed to evaluate liquid spinodal line, and the position of critical point on pressure - temperature plane.

[1] V.Ya.Ternovoi, V.E.Fortov et.al. High Temp.-High Pres. 2002, v.34, pp.73-79

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