

Abstract Submitted  
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**Resistivity and equations of state of warmed gallium melt in megabar pressure range** ANDREY GOLYSHEV, ALEXANDER MOLODETS, Institute of Problems of Chemical Physics RAS, Chernogolovka — The electrical conductivity of gallium melt was measured under step shock compression up to  $\approx 100$  GPa. The semiempirical equation of state (EOS) are constructed in the shock pressure range 30-300 GPa. The EOS was used for reconstruction of thermodynamic history of the sample in the experiments and for the subsequent definition of volume-temperature dependence of gallium melt resistivity. It was shown the volume-temperature dependence of gallium melt resistivity is proportionally to temperature and inversely to the square of characteristic temperature in the shock pressure range 30-80 GPa and temperatures 1000-2000 K. Thus the warmed high pressure gallium phase melt possesses metal conductivity.

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