

Abstract Submitted  
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**Conductivity of multiple shock compressed hydrogen along 135 and 180 GPa isobars**<sup>1</sup> VLADIMIR TERNOVOI, ALEXEI PYALLING, DMITRY NIKOLAEV, SERGEY KVITOV, IPCP RAS — The results of temperature and conductivity measurements of hydrogen, multiple shock compressed to the pressures 135 and 180 GPa are presented. Explosively driven steel plate with velocity up to 8 km/s was used for shock wave generation. Hydrogen with different initial pressures and temperatures was multiple shock compressed between steel bottom and sapphire window. Brightness temperature of hydrogen was measured by fast optical pyrometer. Electrical resistance of shocked hydrogen was measured simultaneously with optical pyrometer records. The conductivity of hydrogen decreased from 424 1/Om/cm at 2700 K down to 20 1/Om/cm at 6000 K along 135 GPa isobar. The conductivity of hydrogen decreased from 800 1/Om/cm at 5000 K down to 100 1/Om/cm at 6700 K along 180 GPa isobar. Experimental results are compared with different theoretical predictions.

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