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Electrical resistivity study of Magnetite under high pressure TAKAKI MURAMATSU, VIKTOR STRUZHKIN, Geophysical Laboratory, Carnegie Institution of Washington, Washington D.C. 20015, USA, LEV GASPAROV, University of North Florida, Florida 32224, USA — Magnetite is known as one of the oldest magnetic materials and crystallizes in the inversed spinel structure. At about 120 K magnetite undergoes a structural phase transition called Verway transition where electrical resistivity abruptly increases with decreasing temperature. Pressure effects of Verway transition studied by magnetic susceptibility and electrical resistivity by several groups revealed Verway transition decreased with pressure and the precise pressure effects depend on the pressure condition i.e., pressure transmitting media. In this work, electrical resistivity measurements were made to revisit the property of magnetite under pressure. Both metallization observed in precedent work using cubic anvil press and the higher pressure properties beyond metallization are examined by diamond anvil cell.

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