9.7 cm

Analytical determination of resistivity components from multiterminal measurements in highly anisotropic media

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We present a method to determine the resistivity tensor of materials with high uniaxial resistivity anisotropy ($\rho_c \gg \rho_{ab}$). The method is based on analytical solution of the Laplace's equation for parallelepiped shaped samples. The current contacts are located on opposite sides of sample and the input data we use are the voltage differencies on the top and bottom surfaces. The analytical equations for ρ_{ab} and ρ_c are given for high values of effective anisotropy Γ. The influence of the position and finite size of current contacts are taken into account. The advantages of our analytical solution are that it is faster than numerical simulations and the applied contact arrangement increases the accuracy of the measurement.

13.4 cm

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