**Abstract :**

An ‘exact’ numerical solution of Laplace’s equation is performed in order to extract the anisotropic resistivity in a single crystal of a superconducting oxide from a multi-terminal transport measurement. A phenomenological fit of the results is proposed to provide a very simple method of extraction of the anisotropic resistivity. This extraction is successfully applied in a crystal of .Tl*;* Bi*/*Sr2CaCu2O7 at room temperature.