

Characteristics of conductivity structures obtained by using EM separated MT soundings

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Recently, magnetotelluric (MT) sounding by using a magnetic site and separated electric sites have been carried out. Such method is very convenient because of light and low-power instruments. However, the magnetic field is not homogeneous on the ground and the EM separated MT sounding can lead erroneous structures. In this study, synthetic calculations are carried out by using two-dimensional forward and inversion codes and effects on estimation of conductivity structure by using EM separated MT soundings are discussed. It is concluded that erroneous structures are led when a magnetic site is located on a low resistive zone. Observed MT responses around the Senya fault obtained by EM separated MT soundings are compared with our results based on the synthetic calculations.

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