

Electrical resistivity structure around the hypocentral region of the DLF earthquakes in the Kii peninsula, southwest Japan (4)

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We conducted wide-band magnetotelluric (MT) measurements in 2005, in order to investigate electrical resistivity structure around the region of the deep nonvolcanic tremors in the Kii peninsula, southwest Japan. From the electric and magnetic field data, we determined apparent resistivity and phase using the remote reference method. However, in particular, along the southern half of the profile, quality of the response function obtained was not good in the longer period than several seconds. Therefore, we used not only wide-band MT data, but also the longer period MT and Network-MT results, in order to clearly determine the low resistive region which had been already detected by wide-band MT responses. The combined apparent resistivity and phase of the TM mode were used for determining a two-dimensional resistivity structure model with the 2D inversion code of Ogawa and Uchida (1996). Obtained model clearly shows a low resistive region around the hypocenters of the DLF earthquakes located in the middle of the profile, suggesting that crustal fluids from the subducting Philippine Sea plate exist around the region.