

Three-dimensional density and magnetic structures around the hypocentral region of 2004 Chuetsu Earthquake

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Three-dimensional density and magnetic structures around the hypocentral region of 2004 Chuetsu Earthquake are estimated, by using simulated annealing (SA) as an algorithm of inversion. In the gravity-magnetics inversion, the problem of non-uniqueness of the inverted solution is serious, so the algorithm is modified to reduce the effect of non-uniqueness problem. The results derived from this revised inversion method show that the low density anomaly and high magnetic-intensity anomaly characterize the hypocenter region. We discuss the possibility of understanding more clearly the mechanism of the inter-plate earthquakes by correlating the above characteristics to the results of the seismic and electromagnetic tomography and other geophysical/geological information.