

Crustal structure beneath the eastern part of Shikoku, southwestern Japan

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We investigated the crustal structure beneath the eastern part of Shikoku based on results from a wide-angle reflection survey and from receiver function analysis for ISI station. In NMO corrected sections, we found reflected P waves from the mid crust. The reflection surface was located around 20 km deep and tilted toward south. The best shear wave velocity model derived from receiver function inversions using genetic algorithms had a low velocity layer (16 - 23 km deep) tilting toward S28E. Therefore, the above P wave reflection surface can correspond to the lower surface of the low velocity layer. The low velocity layer at the top of the lower crust might form a rheologically weak zone which releases strain or relieves stress.