Tomographic Image of the Philippine Sea Plate Subducting Beneath Central Japan

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We obtain the finer-scale 3-D P-wave velocity structure beneath Central Japan using the data set of travel-times which is much larger than those used in previous tomographic studies in this region. The past studies could detect the Philippine Sea Plate (PHS) only above the depth of 80km based on the distribution of subcrustal earthquakes. Our result reveal that the high-velocity anomalies well correspond to the previously estimated seismic PHS up to the depth. Further we detect the steeply inclined high velocity anomalies in the extend portion down to a depth of 150km which has no seismic activity. The high velocity anomalies of the PHS beneath the Kii peninsula can be traced down to a depth of 70km.