

## Topography of mantle discontinuities under the Soya coast region in Antarctica

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The velocity structure and the depth of mantle discontinuities beneath Antarctica are reported from several studies (e.g., Kobayashi & Zhao, 2004; Lawrence et al., 2006). However, the distribution of seismic stations in Antarctica is sparse than that in the northern hemisphere. We investigated the depth variations of the 410 and 660 km discontinuities and thickness of the mantle transition zone beneath the northeastern Antarctica using P-to-s converted phase. We use 7 stations in this study, among them are 6 broadband stations newly operated around the Soya coast region from 1996 and the permanent Syowa station. We obtained 98 receiver functions from 62 earthquakes which occurred from 1999 to 2004 (epicentral distances of  $30^{\circ}$ - $95^{\circ}$ ). Most of Pds waves were propagated from the southeast direction. We obtained dense sampling for the depths of the 410 and 660 km discontinuities and thickness of the mantle transition zone beneath the southeast part of the soya coast region. Our results indicate that the mantle transition zone is thin in this region (about 220 km). The depth variations of the 410 and 660 km discontinuities are 400-420 km and 630-690 km, respectively.