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The topography of the upper mantle discontinuities beneath eastern Asia and the western Pacific using SS precursors

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We attempt to use the large amount of seismic data recorded by the GRSN and the GRF stations in Germany to study the topography of the mantle transition zone in the continent-ocean transition of eastern Asia and the western Pacific with SS precursors. SS bounce points from events in the seismically very active region of the northwest Pacific sample a corridor from the Aleutians, Kamchatka and the Japan subduction zone through the North China craton to the Tibetan plateau. The corridor passes different tectonic units such as subduction zones, an old continental shield, a fold belt and a high plateau. We aim to get information about the depth and sharpness of the upper mantle discontinuities at 410 and 660 km and the topography of the mantle transition beneath different geologic units along the corridor and infer geodynamic processes at depth. We also aim to investigate the MTZ thickness beneath continents and oceans as it was suggested their differences might extend into the mantle transition zone. However, this correlation has not been evident in other studies. High resolution images of SS precursors may also reveal the interaction of the subducted oceanic lithosphere with the mantle transition and serve to answer the often debated question about the scale and extent of the slab stagnation within the mantle transition zone beneath the NW Pacific subduction zone.