PP-P differential travel time measurements and P and PP-P travel time tomography

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We have measured about 7000 PP-P differential travel times by using a waveform cross correlation method and incorporated those data to P wave travel time tomography of Obayashi et al.(1997). On PP-P differential travel time measurements,we investigated appropriate frequency band to obtain both accurate and quantitative data. We found that PP-P differential travel time measurements using long period waveforms are subjected to systematic errors and that the accurate measurements should be made for the waveforms including high frequency components up to 0.5Hz. After incorporating the PP-P data, the P wave velocity model changed mostly in upper mantle under the Pacific Ocean and northern Russia.