

## Estimation of Seismological Clapeyron slope of spinel to post-spinel phase transition

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The 660-km discontinuity is generally attributed to the phase transition of spinel to post-spinel. Because the phase transition has a negative Clapeyron slope, exact depths of the 660-km discontinuity are affected by temperature and should be varies in association with a lateral change of the seismic velocity. However the Clapeyron slope estimated from high pressure experiments is still controversial. We discuss the seismological Clapeyron slope by comparing seismograms in the Eastern Asia to syntheses. We use the data provided by IRIS DMC and the data of National Seismograph Network of China (NSNC). The data in the Eastern Asia for events in the northwest Pacific region is influenced by the Pacific slabs stagnant in the transition layer and the triplicate waveforms due to the 660-km discontinuity are sometime hardly to be explained by one-dimensional earth model. We constructed synthetic waveforms of the event occurred near southeast coast of Russia on 1, Feb. 2002 for a three-dimensional P-wave velocity model of GAP-P1 (Obayashi et al., 2006) using Spectral-Element Method. We used 512 node of the Earth Simulator and calculated the waveforms with accuracy of up to 2 second. These syntheses explain well the first phases as well as fast anomalies of the travel times. However the later phases of the triplication do not agree with the observation. This suggests that undulations of the 660-km discontinuity should be taken into account.