

Description of the Models:

(1) Shen, W., M.H. Ritzwoller, D. Kang, Y. Kim, J. Ning, F.-C. Lin, W. Wang, Y. Zheng, and L. Zhou, A seismic reference model for the crust and uppermost mantle beneath China from surface wave dispersion, *Geophys. J. Int.*, submitted, 2015.

Properties:

Location: E. Asia including China, Korean Peninsula, Sea of Japan and Japan;

Grid: 0.5x0.5

Stations: CEArray, China Array, Korean Seismic Network, NECESS Array, PASSCAL array, and KNET.

Data: Rayleigh wave phase and group measurements.

Tomography:

Ambient Noise: ray theory (Barmin et al., 2001), 8-50 sec

Earthquakes: Eikonal/Helmholtz tomography for phase velocity in certain areas, 30-70 sec.

Parameterization: 1 gradient sedimentary layer, 5 cubic B-splines in the crystalline crust, 5 cubic B-splines in the mantle. For offshore regions, 1 water layer is at the top of the solid earth.

Inversion: Monte Carlo model space sampling.

Forward code: Herrmann

Moho: Variable

Format of Vs model file: China_2015_Vs_v1.0.tar

The resulting model appears in directory `China_2015_Vs_v1.0` separately as a set of 1-D models for each grid point. At each location the model is not the original model file from the inversion that is parameterized in gradient layers and B-splines, but interpolated at regular depth points. For example, there is file `110_40.mod`, for (lat, lon) = (40, 110). The first few kms look as follows:

Depth from Surface(km) Vs(km/sec) Uncertainty of Vs(km/sec)

0	1.56997	0.477791
0.5	2.04501	0.335994
1	2.93673	0.177576
1.5	3.02941	0.170671
2	3.108	0.186244
2.5	3.14888	0.163531