Zhou, L., J. Xie, W. Shen, Y. Zheng, Y. Yang. H. Shi, and M.H. Ritzwoller, The structure of the crust and uppermost mantle beneath South China from ambient noise and earthquake tomography, Geophys. J. Int., 189, 1565-1583, doi: 10.1111/j.1365-246X.2012.05423.x, 2012.

Properties:

Location: South China
Grid: 0.5°x0.5°
Stations: CEArray, GSN, PASSCAL
Data: Rayleigh wave phase speeds.
    Ambient noise: 2009-2010
    Earthquakes: 595 earthquakes, Ms>5.0, 1/09-12/10
Tomography:
    Ambient noise: eikonal tomography (Lin et al., 2009), 6-40 s
    Earthquakes: eikonal tomography (Lin et al., 2009), 25-70 s
Parameterization: sediment layer, 4 crustal B-splines, 5 B-splines in the mantle
Inversion: Monte Carlo model space sampling.
Forward code: Herrmann
Moho: variable

Format of model file: Zhou_SChina_2012.zip

The model is broken into a set of 1-D models found in separate data files, for each location. The location is actually in the name of each file; e.g., 110_34_model, for (lat, lon) = (34, 110). The model has been interpolated onto a fine vertical grid for ploting purposes. The first four km are presented here:

z (km) Vsv error
0 1.70028 0.657041
0.1 1.70466 0.658304
0.2 1.71581 0.665061
0.3 1.73479 0.663597
0.4 3.26057 0.11428
0.6 3.27073 0.111025
0.8 3.28066 0.109959
1 3.28066 0.109959
1.2 3.28126 0.109796
1.4 3.28356 0.108844
1.6 3.28961 0.106584
1.8 3.29884 0.100431
2 3.30903 0.090582
2.2 3.31341 0.0898767
2.4 3.31532 0.0897454
2.6 3.3179 0.0887718
2.8 3.32156 0.0878587
3 3.32462 0.0872677
3.2 3.3301 0.0838077
3.4 3.33679 0.0770024
3.6 3.34348 0.0727222

3.8 3.34841 0.0712006
4 3.35207 0.0703498

The first column is depth below the surface in km. The second column is Vsv in km/s. The third column is model uncertainty in km/s. Unlike some of our models, we don't include repeated knots in this one to specify layer boundaries, like the Moho. Also, we do not include in this file crustal thickness and its uncertainty, although these are computed quantities.