A Big Earth Data Platform for Three Poles

**Receiver function, seismic stations and HK results data set in the Sichuan Basin (2010-2012)**

1、Description

The data include the location information of 14 seismic stations in Sichuan Basin, the teleseismic receiver function waveform (Gauss coefficient is 5.0) and the thickness and VP / vs ratio of sedimentary and bedrock layers obtained by multi-layer H-K superposition method. By selecting the epicentral distance of 30-90 degrees and the teleseismic events greater than 5.5 degrees recorded by 4 fixed stations set up by China Seismological Bureau and 10 mobile stations set up by Institute of Geology and Geophysics of Chinese Academy of Sciences from 2010 to 2012 in the study area, the time domain iterative deconvolution method is used to obtain the radial convergence function. The results show that: the thickness of sedimentary layer is mainly distributed in 4.2-7.6 km, and the wave velocity ratio is generally more than 1.87; the thickness of bedrock is mainly distributed in 33.4-41.8 km, and the wave velocity ratio is generally less than 1.74. The uploaded data provide valuable data and information for others to further study the structural characteristics of Sichuan Basin.

2、Keywords

Theme：Receiver function,Crust mantle structure,Seismology,Direct P wave
Discipline：Solid earth
Places：The Sichuan Basin
Time：2010-2012

3、Data details

1.Scale：None

2.Projection：

3.Filesize：15.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：31.0 | - |
| west：105.4 | - | east：106.8 |
| - | south：29.4 | - |

5、Time frame:None--None

6、Reference method

References to data:

WEI Zigen. Receiver function, seismic stations and HK results data set in the Sichuan Basin (2010-2012). A Big Earth Data Platform for Three Poles, doi:10.11888/Disas.tpdc.2713442021

References to articles:

Wei, Z.G., Chu, R.S., Chen, L., Wu, S.S., Jiang, H., He, B. (2020). The structure of the sedimentary cover and crystalline crust in the Sichuan Basin and its tectonic implications. Geophysical Journal International, 223(3), 1879-1887,10.1093/gji/ggaa420.

7、Supporting project information

Deep processes and resource effects of major geological events during the Yan Mountains period

8、Data resource provider

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