A Big Earth Data Platform for Three Poles

**Multi-scale and high-resolution structure underneath the Sichuan-Yunnan area**

1、Description

This data set consists of multi-scale and high-resolution seismic wave velocity, attenuation, anisotropy, interface and stress field model of the crust, lithosphere and upper mantle beneath the Sichuan-Yunnan area. The velocity and attenuation models are mainly obtained by applying waveform adjoint tomography, double difference tomography and ambient noise tomography methods. The anisotropic models are mainly obtained by applying shear wave splitting, receiver functions and ambient noise methods. The interface structure is mainly obtained by receiver functions. The stress field model is mainly restrained by GPS velocity field and focal mechanism. Some of the used seismic waveform are from published data, and some are obtained from deployed seismic stations. The model data set can be used for further study on valuable scientific issues such as the mechanism of the occurrence of large earthquakes and the tectonic evolution of the lithosphere beneath the Chuandian Block, and the dynamic mechanism of the eastward extrusion of the Tibetan Plateau.

2、Keywords

Theme：Joint inversion,Stress field,XKS(SKS,SKKS and PKS),Seismic anisotropy,Average crustal thickness,Receiver function,Crust mantle structure,Tomography,Vp/Vs ratio,Seismology  
Discipline：Solid earth  
Places：Sichuan-Yunnan region  
Time：nothing

3、Data details

1.Scale：None

2.Projection：

3.Filesize：11.7MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：32.0 | - |
| west：96.0 | - | east：106.0 |
| - | south：22.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

PEI Shunping. Multi-scale and high-resolution structure underneath the Sichuan-Yunnan area. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2725292022

References to articles:

7、Supporting project information

The study on multi-scale and high-resolution structures, deformation patterns and background of large earthquakes preparation and occurrence beneath the Chuandian Block

8、Data resource provider

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