A Big Earth Data Platform for Three Poles

**Crustal structure observation data set of East China Sea shelf (2017-2019)**

1、Description

Supported by the national key R & D Program "deep processes and resource effects of Yanshanian major geological events" project "comprehensive geophysical exploration and deep processes of key corridors", we completed two OBS wide-angle seismic profiles in the East China Sea shelf area in 2017 and 2019. Based on the obtained OBS Data, the deep crustal structure of the East China Sea shelf is obtained by using the forward and inversion methods of tomography. The velocity structure reveals that the crustal thickness decreases from 30km in Zhejiang Fujian orogenic belt to 15km in continental shelf basin, and the corresponding crustal velocity changes from 4.40-7.15km/s to 4.30-6.90km/s. Based on the previous studies, we find that there are high magnetic anomalies in Zhejiang Fujian orogenic belt. We think that the crustal structure of Zhejiang Fujian orogenic belt is quite different from that of continental shelf basin. The East China Sea may not be the extension of South China continental margin; There is a high velocity anomaly with a width of about 50km and a velocity of 7.15km/s at the junction of Zhejiang Fujian orogenic belt and continental shelf basin. We speculate that the anomaly is a Mesozoic suture zone, and the high velocity anomaly is related to the magmatic activity caused by plate tearing when the paleo Pacific plate subducted and retreated.

2、Keywords

Theme：Crustal structure,Tectonics,Suture belt,Seismology,exotic terrane
Discipline：Solid earth
Places：East China Sea Shelf
Time：2017-2019

3、Data details

1.Scale：None

2.Projection：

3.Filesize：40.1MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.07 | - |
| west：122.47 | - | east：125.09 |
| - | south：28.34 | - |

5、Time frame:2017-04-04 16:00:00+00:00--2019-09-12 16:00:00+00:00

6、Reference method

References to data:

WEI Xiaodong, DING Weiwei. Crustal structure observation data set of East China Sea shelf (2017-2019). A Big Earth Data Platform for Three Poles, doi:10.11888/Geo.tpdc.2712922021

References to articles:

7、Supporting project information

The deep process and resource effect of major geological events in Yanshan period

8、Data resource provider

name: DING Weiwei
unit:
email: wwding@sio.org.cn

name: WEI Xiaodong
unit:
email: xdwei\_922@126.com