A Big Earth Data Platform for Three Poles

**Rupture process models of the Yangbi and Maduo earthquakes that struck the eastern Tibetan Plateau in May 2021**

1、Description

Through the joint inversion of seismic waveforms and InSAR coseismic displacement data, our study revealed the spatiotemporal and spatial source rupture processprocesses of the two strong earthquakes that occurred in struck the eastern Tibetan Plateau atin May 2021. The results show that the Yangbi earthquake, which occurred in along the southeastern margin of the TibetTibetan Plateau, was a Mw6.1 event with characterized by unilateral right-dextral strike-slip rupture and 8s an 8 s duration. The In addition, the Maduo earthquake, which occurred in the interior of the Tibetan Plateau, was a Mw7.5 event with characterized by left-sinistral lateral-strike- slip extendedextending along both sides of the earthquake seismogenic fault and 36sa 36 s duration. The rupture properties of these two strong earthquakes reflect the deformation characteristics of different parts of the eastern Tibetan Plateau,. and also These events also caused the increase of the Coulomb stress of the surrounding active faults to increase, so we should pay attention to the risk potential of future earthquakes should be evaluated.

2、Keywords

Theme：Teleseismic waveform,Source Process,InSAR,Seismology,Others  
Discipline：Solid earth  
Places：Maduo Earthquake, Yangbi Earthquake  
Time：May 21, 2021

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.6MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.0 | - |
| west：90.0 | - | east：105.0 |
| - | south：24.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

WANG Weimin . Rupture process models of the Yangbi and Maduo earthquakes that struck the eastern Tibetan Plateau in May 2021. A Big Earth Data Platform for Three Poles, doi:10.1016/j.scib.2021.11.0092022

References to articles:

Wang, W., He, J., Wang, X., Zhou, Y., Hao, J., Zhao, L., & Yao, Z. (2022). Rupture process models of the Yangbi and Maduo earthquakes that struck the eastern Tibetan Plateau in May 2021. Science Bulletin. 67, 466-469.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program  
Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: WANG Weimin   
unit: Institute of Tibetan Plateau Research, CAS  
email: wangwm@itpcas.ac.cn