A Big Earth Data Platform for Three Poles

**The three-dimensional lithospheric stress field model beneath the Sichuan-Yunnan region**

1、Description

The data set is a three-dimensional lithospheric stress field model in the Sichuan-Yunnan region, which is constrained by GPS velocity field and focal mechanism solution. A 3D finite element model of regional lithospheric deformation is constructed by using the lithospheric structure fracture information in Sichuan-Yunnan region. The velocity boundary constraints of the model are given by integrating the regional GPS velocity published in the existing researches and the latest observation. At the same time, the stress field of the model is constrained by the focal mechanism solution of regional small and medium earthquakes and mantle convection. A comprehensive simulation model of current crustal deformation and stress field in Sichuan-Yunnan region is constructed. The model can be used for further study on valuable scientific issues such as the mechanism of the large earthquakes preparation, tectonic evolution of the lithosphere in Sichuan-Yunnan region and the eastward extrusion of the Tibetan Plateau.

2、Keywords

Theme：Crustal Motion,Deformation pattern,Tectonics,Seismology  
Discipline：Solid earth  
Places：Sichuan-Yunnan region  
Time：nothing

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：1.9MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：32.5 | - |
| west：97.0 | - | east：105.0 |
| - | south：22.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

XIONG Xiong . The three-dimensional lithospheric stress field model beneath the Sichuan-Yunnan region. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2725862022

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

name: XIONG Xiong   
unit: China University of Geosciences(wuhan)  
email: xxiong@cug.edu.cn