A Big Earth Data Platform for Three Poles

**Paleomagnetic data bearing on the Mesozoic deformation of the Qiangtang Block: Implications for the evolution of the Paleo- and Meso-Tethys**

1、Description

Paleomagnetism has played an important role in quantifying the Mesozoic evolution of “Proto-Tibet”. We present here our recent paleomagnetic data from five Middle-Upper Jurassic sedimentary sequences of the eastern North Qiangtang Terrane at Yanshiping. The new paleomagnetic results from 99 sites, 1,702 samples and reveal paleopoles at 79.1°N/306.9°E (dp=3.9°, dm=6.3°) for Quemo Co Fm, 68.9°N/313.8°E (dp=2.1°, dm=3.7°) for Buqu Fm, 66.1°N/332.1°E (dp=2.7°, dm=4.6°) for Xiali Fm, 72.4°N/318.6°E (dp=3.9°, dm=6.7°) for Suowa Fm, and 76.9°N/301.1°E (dp=7.9°, dm=13.2°) for Xueshan Fm, respectively. These results indicate that Yanshiping experienced latitudinal changes from ~24.5° N to ~22.0º N over the time interval 171.2 - <157.5 Ma, accompanied by clockwise (CW) rotations of ~19.8±9.4º between ~171.2 and 161.7 Ma and counterclockwise (CCW) rotations of ~15.4±13.4º between ~161.7 and <157.2 Ma. We attribute the change in rotation sense at approximately ~161.7 Ma to the initial collision of the Lhasa and Qiangtang terranes. Using this and other paleomagnetic data from the Lhasa, Qiangtang and Tarim terranes, as well as other geological evidence, such as tectonism-related sedimentary sequences, volcanism, and HP metamorphism, we propose a new conceptual evolution model for the Mesozoic QT and Tethyan Oceans, including 3 intra-continental collisions (South-North Qiangtang, Qiangtang-Songpan-Ganzi and Lhasa-Qiangtang) and post collisional extensions.

2、Keywords

Theme：Geomagnetism,paleomagnetism,Tectonics,plate tectonics  
Discipline：Solid earth  
Places：Qiangtang terrane, Tethyan Oceans, Lhasa Terrane  
Time：Mesozoic

3、Data details

1.Scale：1

2.Projection：

3.Filesize：3.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.0 | - |
| west：75.0 | - | east：100.0 |
| - | south：30.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

YAN Maodu. Paleomagnetic data bearing on the Mesozoic deformation of the Qiangtang Block: Implications for the evolution of the Paleo- and Meso-Tethys. A Big Earth Data Platform for Three Poles, doi:10.1016/j.gr.2016.01.0122019

References to articles:

7、Supporting project information

8、Data resource provider

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