A Big Earth Data Platform for Three Poles

**A data set about the chronology results of the Cenozoic strata within and around the Tibetan Plateau**

1、Description

The establishment and improvement of the chronological framework of the Cenozoic strata within and around the Tibetan Plateau, are very essential and significant for revealing the history of the collision, uplift and deformation of the Tibetan Plateau. It's vital to enhance the understanding of the denudation and weathering patterns varying with time and space and find out the mechanism of the uplift and deformation of the Tibetan Plateau and its relevant effects on the regional and even global environment and climate. This data set has improved or established the chronological framework of the Cenozoic strata within and around the Tibetan Plateau, based on the magnetostratigraphy and accompanied by zircon U-Pb geochronology of the volcanics/tuffs/sedimentary tuffs or detrital rocks and/or biostratigraphy. The precisely dated sedimentary sequences include a 90-m loess sequence of the Duikang section constrained as ~8.1-3.7 Ma in the Linxia basin, several fluvial and lacustrine sequences (such as the 1890-m Dayu section with a range of ~41.8-21.5 Ma in age in the Lunpola basin, the 300-m Shuanghe section dated as ~42.7-36 Ma in the Jianchuan basin, the 252-m Caijiachong section with a range of ~47-36 Ma in the Qujing basin) and a 932-m saline lacustrine sequence with gypsolyte of the Jiangcheng section in the Simao basin whose age has identified to >112-63 Ma. All relevant experiments of the above chronology results have been conducted in the Institute of Tibetan Plateau Research, Chinese Academy Sciences, Lanzhou University, Tübingen University (Germany) , University of Texas at Austin (USA). The thermal demagnetization has been implemented using a thermal demagnetization oven and measured by a cryogenic magnetometer in a magnetically shielded room. The zircon U-Pb dating has been carried out using an inductively coupled plasma mass spectrometer with an attached laser ablation system. This data set provides an important chronological foundation for the following researches on tectonic evolution, paleoenvironment and paleoclimate. It has created a series of original theoretical achievements with widespread influence.

2、Keywords

Theme：Paleontology,Formation,Geomagnetism,paleomagnetism,Geochemistry,Cenozoic,Terrestrial sediment records,Ziron U-Pb dating,Magnetostratigraphy,Biostratigraphy,Sedimentary Record
Discipline：Solid earth
Places：Simao basin, Jianchuan basin, Qujing basin, Lunpola basin, Linxia basin
Time：Cenozoic

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：9.45MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.42 | - |
| west：89.78 | - | east：103.96 |
| - | south：22.59 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Dawen , YAN Maodu, ZHANG Weilin, FANG Xiaomin , FANG Xiaomin. A data set about the chronology results of the Cenozoic strata within and around the Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2724272022

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7、Supporting project information

The Second Tibetan Plateau Scientific Expedition and Research Program (STEP)(2019QZKK0707)

8、Data resource provider

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