A Big Earth Data Platform for Three Poles

**Detrital zircon U-Pb ages data of sediments in Tibetan Plateau**

1、Description

The Wuyu Basin is bounded by the Gangdese Mountains to the north and the Yarlung Tsangpo River to the south, and is a representative basin to study the Cenozoic tectonism of the southern Tibet. The sedimentary strata in the Wuyu Basin include the Paleocene-Eocene Linzizong Group volcanics and the Oligocene Rigongla Formation (Fm.) volcanics, the Miocene lacustrine sediments of the Mangxiang Fm. and Laiqing Fm. volcanics, the late Miocene-Pliocene Wuyu Fm., and the Pleistocene Dazi Fm. Five sandstone samples from the Mangxiang Fm., Wuyu Fm. and Dazi Fm. and one modern Wuyu reiver sand sample were collected for detrital zircon U-Pb dating using the LA-ICP-MS method. Detrital zircon U-Pb ages in the Mangxiang Fm. show a large cluster at 45-80 Ma; those in the Wuyu Fm. show a large cluster at 8-15 Ma and a subsidiary cluster at 45-70 Ma; those in the Dazi Fm. show three large clusters at 45-65 Ma, 105-150 Ma and 167-238 Ma; and those in modern Wuyu river show a large cluster at 8-15 Ma and a subsidiary cluster at 45-65 Ma (Figure 1). Late Cretaceous-early Eocene zircons in all samples are consistent with the most prominent stage of magmatism of the Gangdese Mountains; the 8-15 Ma zircons in the Wuyu Fm. and modern Wuyu river are consistent with the magmatism of the Laiqing Fm.; and the Triassic-Jurassic zircons in the Dazi Fm. are consistent with the magmatism of the central Lhasa terrane. The results of detrital zircon U-Pb ages and sedimentary facies analyses in the Wuyu Basin indicate that the southern Tibetan Plateau suffered multi-stage tectonism-magmatism since the India-Asia collision: (1) Paleogene Linzizong Group-Rigongla Fm. volcanics; (2) tectonism-magmatism at ~15 Ma ended the lacustrine sediments of the Mangxiang Fm. and resulted in volcanism of the Laiqing Fm.; (3) tectonism at ~8 Ma resulted in the volcanic rocks of the Laiqing Fm. becoming one of the main provenances for the overlying Wuyu Fm.; (4) the Wuyu Basin formed braided river and received sediments from the central Lhasa terrane to its north at ~2.5 Ma. The geomorphic pattern of the southern Tibet has gradually formed since the Quaternary.

2、Keywords

Theme：Others,Formation,Detrital zircon,Tibetan Plateau,Tectonics,Wuyu Baisn,Terrestrial sediment records,Tectonic geomorphology,volcanics,Cenozoic,Geomorphology,Southern Tibetan Plateau,Other,tectonic geomorphology,Quaternary Geology and Geomorphology
Discipline：Terrestrial Surface,Palaeoenvironment,Solid earth
Places：Wuyu Basin, Southern Tibetan Plateau
Time：Cenozoic

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.901MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.0 | - |
| west：89.0 | - | east：90.0 |
| - | south：29.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

MENG Qingquan, MENG Qingquan. Detrital zircon U-Pb ages data of sediments in Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2724342022

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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