A Big Earth Data Platform for Three Poles

**Geochemical data set of the Paleocene-Eocene thermal maximum at Gamba and Tingri, southern Tibet**

1、Description

This data set comes from shallow marine carbonate sections at Tingri and Gamba, south Tibet. The age of these samples is about 56 Ma (at the Paleocene-Eocene boundary). At Tingri, we studied two parallel sections (13ZS section and 10-11TM section), and at Gamba, we studied one section (11TMG). From the 13ZS section, we analyzed carbon and oxygen isotopic compositions and calcium carbonate content of the whole carbonate rock, as well as the in-situ carbon isotopic compositions and element contents of the foraminifera shell. From the 10-11TM section, we analyzed carbon, oxygen and strontium isotopic compositions of the whole rock. From the 11TMG section, we analyzed carbon and oxygen isotopic compositions of the whole carbonate rock. Carbon and oxygen isotopic compositions of the whole rock were measured by gas isotope mass spectrometer (MAT251), strontium isotope by thermal ionization mass spectrometry (TIMS), calcium carbonate content by acid dissolution, in-situ carbon isotopic compositions by SIMS, and in-situ element contents by LA-ICPMS. Among these data, in-situ carbon isotope data were obtained from the laboratory of Professor John Valley at the University of Wisconsin-Madison in the United States, and the rest are from the relevant laboratories of the Department of Geosciences at the University of Bremen in Germany. Based on these data, we published three peer-reviewed papers on Journals of Gondwana Research, GSA Bulletin, and Global and Planetary Change.

2、Keywords

Theme：Biological Resources,Foraminifer,Geochemistry,Microfossils,Isotopes,Sediments,Element geochemistry,Paleoclimate Reconstruction,Carbon isotope
Discipline：Human-nature Relationship,Palaeoenvironment,Solid earth
Places：south Tibet, Gamba, Tingri
Time：Paleocene-Eocene thermal maximum, 56 Ma

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.05MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：28.7 | - |
| west：86.7 | - | east：88.5 |
| - | south：28.2 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Qinghai. Geochemical data set of the Paleocene-Eocene thermal maximum at Gamba and Tingri, southern Tibet. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2709502019

References to articles:

Zhang, Q., Willems, H., Ding, L., & Xu, X. (2019). Response of larger benthic foraminifera to the Paleocene-Eocene thermal maximum and the position of the Paleocene/Eocene boundary in the Tethyan shallow benthic zones: Evidence from south Tibet. GSA Bulletin, 131(1-2), 84-98.

Zhang, Q., Ding, L., Kitajima, K., Valley, J. W., Zhang, B., Xu, X., . . . Klügel, A. (2020). Constraining the magnitude of the carbon isotope excursion during the Paleocene-Eocene thermal maximum using larger benthic foraminifera. Global and Planetary Change, 184, 103049.

Zhang, Q., Wendler, I., Xu, X., Willems, H., & Ding, L. (2017). Structure and magnitude of the carbon isotope excursion during the Paleocene-Eocene thermal maximum. Gondwana Research, 46, 114-123.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: ZHANG Qinghai
unit: Institue of Tibetan Plateau Research, Chinese Academy of Sciences
email: zhang@itpcas.ac.cn