A Big Earth Data Platform for Three Poles

**Magnetic and Geochemical data set of Huitoutala section, Qaidam Basin (2017)**

1、Description

1) Data content:
Paleomagnetic data can establish paleomagnetic time frame, magnetic and geochemical indicators can restore the climate change in geological history, and heavy mineral analysis can be used to trace provenance.
2) Data sources and processing methods
Data sources are experimental data.
Magnetic data: The samples collected in the field were ground into fine particles in a 2x2x2 non-magnetic plastic box with a mortar, and tested with a Kapobridge magnetometer, pulse magnetometer and rotary magnetometer.
Carbon isotope data: The samples were dried at 40℃, then studied to less than 200 mesh, and reacted with 100% phosphoric acid to release CO2 gas in a gas source isophase mass spectrometer.
Grain size data: Analysis of decomposed samples using a Malvern Mastersizer 2000 particle size analyzer. Prior to analysis, organic matter was removed with hot hydrogen peroxide and then carbonate was removed with hydrochloric acid in accordance with standard Procedures of Lanzhou University.
3) Data quality
Sample collection and experimental processing were carried out in accordance with strict standards, and the data obtained were of reliable quality.
4) Data application achievements and prospects
One SCI paper was published using the data, which was Ni.

2、Keywords

Theme：Magnetic susceptibility,magnetic properties,Grain size,Anhysteretic remanent magnetization (ARM),Isotopes,Paleomagnetic,Paleoclimate Reconstruction
Discipline：Palaeoenvironment
Places：Qaidam Basin
Time：Miocene

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.5MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：90.0 | - | east：100.0 |
| - | south：39.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

NIE Junsheng. Magnetic and Geochemical data set of Huitoutala section, Qaidam Basin (2017). A Big Earth Data Platform for Three Poles, doi:10.1126/sciadv.16007622022

References to articles:

Nie, J.S., Garzione, C., Su, Q.D., Liu, Q.S., & Zhang, R., et al. (2017). Dominant 100,000-year precipitation cyclicity in a lateMiocene lake from northeast Tibet.Science Advances, 3(3), e1600762.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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