A Big Earth Data Platform for Three Poles

**Data set of surface dust properties in the middle and upper reaches of the Yarlung Zangbo River**

1、Description

The data set contains the magnetism, grain size, geochemical element, chromaticity and organic carbon isotope data of 119 topsoils in the middle and upper reaches of the Yarlung Zangbo River, southern Tibetan Plateau; contains the age, magnetism, grain size, geochemical element, chromaticity and organic carbon isotope data of the five aeolian sedimentary sections in this region; and contains chronological data of 36 aeolian sediments, provenance data of 46 samples from different sediments, and Sr-Nd isotopic data of 21 samples from different sediments. The magnetic susceptibility was measured using a Bartington MS2 metre with a dual-frequency sensor; The anhysteretic remanent magnetization was induced by LDA-5 demagnetizer, and was measured using a JR-6A Minispin magnetometer; The grain size was measured by Malvern Mastersizer 2000 laser particle size analyzer; The geochemical element was determined by X-ray fluorescence spectrometer; The chromaticity was measured by CM-700d spectrophotometer; The organic carbon isotope was determined by element analyzer-stable isotope ratio mass spectrometer (EA-IRMS); Optically stimulated luminescence measurements were conducted using an automated Risø-TL/OSL-DA-20 reader; For the AMS14C and Sr-Nd isotope measurements, please refer to the main body of the scientific research report. The data set is rich in information, authentic and reliable, and provides an important data reference for understanding the physical and chemical properties of surface dust, provenance, and the long-term evolution history of ancient dust in Yarlung Zangbo River basin, southern Tibetan Plateau. Funded project: The Second Tibetan Plateau Scientific Expedition Program (STEP), Task 6 Topic 2 "Dust aerosol and its climatic and environmental effects" (2019QZKK0602).

2、Keywords

Theme：Soil,Soil physical and chemical indexes,Magnetic susceptibility,Loess,Grain size,Loess,Paleoclimate Reconstruction
Discipline：Terrestrial Surface,Palaeoenvironment
Places：Middle and upper reaches of the Yarlung Zangbo River, South Tibetan Plateau
Time：Holocene, Millennial scale

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1.15MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：32.51 | - |
| west：80.09 | - | east：95.77 |
| - | south：28.85 | - |

5、Time frame:2019-06-30 16:00:00+00:00--2020-06-29 16:00:00+00:00

6、Reference method

References to data:

XIA Dunsheng, WANG Shuyuan, YANG Shengli, WANG Fei, YANG Junhuai, LING Zhiyong. Data set of surface dust properties in the middle and upper reaches of the Yarlung Zangbo River. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2713562021

References to articles:

Ling, Z.Y., Yang, S.L., Wang, X., Wang, J.P., Xia, D.S., & Chen, F.H. (2020). Spatial-temporal differentiation of eolian sediments in the Yarlung Tsangpo catchment, Tibetan Plateau, and response to global climate change since the Last Glaciation. Geomorphology, 357, 107104.

Ling, Z.Y., Yang, X.Y., Wang, Y.X., Wang, Y.R., Jin, J.H., Zhang, D.J., & Chen, F.H. (2020). OSL chronology of the Liena archeological site in the Yarlung Tsangpo valley throws new light on human occupation of the Tibetan Plateau. The Holocene, 30(7), 1043-1052.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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