A Big Earth Data Platform for Three Poles

**Optically stimulated luminescence dating data of the Luochuan and Xuyi loess sections in China**

1、Description

This data set is composed of photoluminescence dating data of loess profiles in Luochuan (35 ° 43 ′ n, 109 ° 25 ′ E) and Xuyi (118 ° 39 ′ e, 32 ° 51 ′ n) in China, including the results of photoluminescence chronology of 45 samples. Among them, the luminescence chronology of 21 samples from Luochuan section of the Loess Plateau of China uses the potassium feldspar monolithic regeneration method (SAR) multi-step temperature rise post IR IRSL (met pirir) dating technique; The study on the luminescence chronology of 24 samples in Xuyi section is that 8 samples are based on the photoluminescence dating of 4-11 micron quartz particles according to the standard monolithic regeneration method (SAR) measurement process, and 8 samples are based on the infrared luminescence dating of 4-11 micron multi mineral fine particles heated to 225 ℃ (pir225) according to the monolithic regeneration method measurement process, And 8 samples based on the infrared luminescence dating of 4-11 micron multi mineral fine particles heated to 290 ℃ (pir290) according to the single chip regeneration method measurement process. The instrument used for the photoluminescence dating of Luochuan and Xuyi loess profiles is RIS ø thermoluminescence / photoluminescence dating instrument made in Denmark. The experimental analysis was completed in the Department of Geosciences of the University of Hong Kong and babes Bolyai University in Romania. The data provide further age constraints for the Loess in Luochuan and Xuyi, China, and are of great significance for the study of paleoclimate / Paleoenvironment in the two regions.

2、Keywords

Theme：Loess,Optically stimulated luminescence dating,Loess,Paleoclimate Reconstruction
Discipline：Palaeoenvironment
Places：Chinese Loess Plateau, South-Eastern China
Time：since about two hundred thousand years

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.5 | - |
| west：109.0 | - | east：119.0 |
| - | south：32.5 | - |

5、Time frame:None--None

6、Reference method

References to data:

HAO Qingzhen. Optically stimulated luminescence dating data of the Luochuan and Xuyi loess sections in China. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2716972021

References to articles:

Zhang, J., Li, S.-H., Sun, J., & Hao, Q. (2018). Fake age hiatus in a loess section revealed by OSL dating of calcrete nodules. Journal of Asian Earth Sciences 155, 139-145.

Avram, A., Constantin, D., Hao, Q., & Timar-Gabor, A. (2022). Optically stimulated luminescence dating of loess in South-Eastern China using quartz and polymineral fine grains. Quaternary Geochronology 67, 101226.

7、Supporting project information

Comparative study of past climate changes at multi-timescale in East Asian monsoon region and Westerly zone
NSFC Basic Research Center Program: Continental Evolution and Earth’s monsoon System
NSFC National Science Fund for Distinguished Young Scholars: Quaternary Geology

8、Data resource provider

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