A Big Earth Data Platform for Three Poles

**GEOCHRONOLOGICAL and geochemical characteristics of sigongshan pluton in Dabie orogenic belt and its Mesozoic geodynamic database**

1、Description

Data includes excel and JPG format. Excel data includes: Zircon chronology data, whole rock major and trace element analysis data, whole rock strontium and neodymium isotope analysis data, zircon hafnium isotope analysis data.
Laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) was used for zircon dating in the school of resources and environmental engineering, Hefei University of technology, China.
The major and trace elements of the whole rock were measured in ALS laboratory group (Australian ICP-MS analysis laboratory in Guangzhou, China). The main elements were determined by X-ray fluorescence spectrometry (XRF). Determination of trace elements by ICP-MS on element-2 mass spectrometer
RB – Sr and SM – Nd isotope measurements were carried out on the Finnigan mat ‐ 262 thermal ionization mass spectrometer (TIMS) of University of science and technology of China.
The State Key Laboratory of geological processes and mineral resources of China University of Geosciences has carried out in-situ Hf isotope analysis on zircon grains, which have been dated by la-icp-ms.
The data in JPG format include: (1) geological map of Dabie orogenic belt showing the distribution of Early Cretaceous rocks; (2) geological map of sigongshan area in central Dabie; (3) microscopic image of magmatic rocks of sks intrusion (cross polarized light) (a) quartz diorite (14sk003-1); (4) quartz diorite (14sk003-1); (4) quartz diorite (14sk003-1); (4) quartz diorite (14sk003-1);
Four representative zircon cathodoluminescence (CL) images of sks intrusions 5. Zircon u – Pb concordance of sks intrusions 6. Classification of sks intrusions; Harker diagram of sks intrusive magmatic rocks
9. Rb-v of magmatic rocks of sks intrusion. 10 SR – Nd isotopic composition of sks intrusion data source: 11 zircon U-Pb age and age. ε HF (T) diagram of sks intrusive magmatic rocks: 12 (LA / Yb) n-sr / y diagram of sks intrusive magmatic rocks; 13 EU and Sr (a) and EU and Rb (b) diagram of quartz diorite and monzonitic granite in sks intrusion; 14 y and Sr / y fractional crystallization (FC) model
Based on the above data, we can analyze the monzogranite and quartz diorite in sigongshan pluton, the largest pluton in the central Dabie unit of Dabie orogenic belt, and provide evidence for their movement analysis in Mesozoic geodynamics.

2、Keywords

Theme：zircon,magma,Rocks/Minerals,Geochemistry,Geologic Hazard,Isotopic geochemistry
Discipline：Solid earth
Places：Dabie Orogen
Time：Cretaceous

3、Data details

1.Scale：None

2.Projection：

3.Filesize：2.65MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：32.0 | - |
| west：115.0 | - | east：117.17 |
| - | south：30.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

YAN Jun. GEOCHRONOLOGICAL and geochemical characteristics of sigongshan pluton in Dabie orogenic belt and its Mesozoic geodynamic database. A Big Earth Data Platform for Three Poles, doi:10.1002/gj.35362021

References to articles:

Liu, X., & Yan, J. (2020). Geochronology and geochemistry of the sikongshan intrusion in the dabie orogen, central china: implication for mesozoic geodynamic background. Geological Journal, 55(4).

7、Supporting project information

The deep process and resource effect of major geological events in Yanshan period

8、Data resource provider

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