A Big Earth Data Platform for Three Poles

**Apatite fission-track and detrital zircon U-Pb chronological results**

1、Description

Twenty-two apatite fission-track datasets are gained from basement rock samples from the Hei Shan-Kuantan Shan region in North Qilian. These results have been obtained by LA-ICP-MS-based fission-track analyses, with age errors less than 20%. The apatite fission track ages range 22.3±2.6 to 175±18Ma, with mean track lengths ranging 11.17±2.26 to 13.63±1.93μm. Thermal history modeling shows that the Hei Shan-Kuantan Shan has undergone five episodes of exhumation-related cooling events, in the early Jurassic, early Cretaceous and late Cretaceous, during/since the Eocene and since the middle Miocene. The exhumation events prior to the Cenozoic are attributed to far-field responses of successive assembly of blocks along the southern margin of the Eurasian continent. The Eocene exhumation is speculated to represent an immediate response to the initial Indian-Eurasian collision. The exhumation since the middle Miocene is related to rapid uplift of the North Qilian and growth of the Tibetan Plateau.
Eight detrital zircon U-Pb geochronology datasets are gained from Meso-Cenozoic sedimentary samples from the Hongliuxia section north of the North Qilian. These results have been obtained by LA-ICP-MS analysis, with age errors less than 10%. These results, combined with zircon U-Pb age spectra of potential source regions in the North Qilian to the south and Bei Shan-Hei Shan-Kuantan Shan to the north, suggest a shift of provenance in the north for the Huoshaogou and Baiyanghe Formation sediments to in the south for the Shulehe Formation deposits. These results indicate rapid uplift of North Qilian and growth of the Tibetan Plateau since the middle Miocene.

2、Keywords

Theme：Tectonics,Thermochronology
Discipline：Solid earth
Places：Qilian mountains
Time：Mesozoic and Cenozoic

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.16MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.3 | - |
| west：97.0 | - | east：98.3 |
| - | south：39.6 | - |

5、Time frame:2018-12-31 16:00:00+00:00--2018-12-31 16:00:00+00:00

6、Reference method

References to data:

LIN Xiubin. Apatite fission-track and detrital zircon U-Pb chronological results. A Big Earth Data Platform for Three Poles, doi:10.11888/SolidEar.tpdc.2722882022

References to articles:

7、Supporting project information

8、Data resource provider

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