A Big Earth Data Platform for Three Poles

**Major/trace element and Nd/Sr isotope compositions of riverine sands in the Yarlung Zangbo-Brahmaputra-Ganges river system**

1、Description

This dataset include major, trace, neodymium and strontium isotope geochemical data of 72 riverine sand samples from the Yarlung Tsangpo-Brahmaputra-Ganges river system, including 48 samples from the Yarlung Tsangpo River and its tributaries, 19 samples from the Brahmaputra River and its tributaries, and 5 samples from the Ganges River. The major elements include SiO2, Al2O3, Fe2O3 and other 7 elements from all 72 samples, expressed as percentage of oxides; trace elements include Li, Be, Sc and other 41 elements from 30 samples, expressed as parts per million (ppm); neodymium isotope data includes 143Nd/144Nd ratios and their error values from 26 samples; while strontium isotope data includes 87Sr/86Sr ratios and their error values for 26 samples. The main elements were analyzed using a PANalytical Axios X-ray fluorescence analyzer (XRF), with testing errors <3%; trace elements were tested using a Thermo Fisher VG-X7 inductively coupled plasma mass spectrometer (ICP-MS), with testing errors <5%; Nd and Sr isotopes were tested using a Thermo Fisher NEPTUNE plus multi-collector inductively coupled plasma mass spectrometer (MC-ICP-MS), with deviations of <0.005% for Sr and <0.004% for Nd isotopes relative to the reference values of the international standards. All the above laboratory tests were performed at the State Key Laboratory of Marine Geology, Tongji University. The data are of both scientific and social importance for understanding the tectonic activity, chemical weathering, and source-to-sink transport of riverine sediments in large drainage basins from the Tibetan Plateau, as well as for assessing the inter-relationship between natural processes and human activities.

2、Keywords

Theme：strontium isotope,neodymium isotope,sediments,Drainage Basin and River System,major elements,trace elements  
Discipline：Terrestrial Surface  
Places：the Ganges River, Tibetan Plateau, Bangladesh, Yarlung Tsangpo River, Brahmaputra River, India  
Time：modern process

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.037MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.35 | - |
| west：82.87 | - | east：95.76 |
| - | south：23.17 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZAKIR HOSSAIN H.M, ZHAO Yulong , TARAL Suchana , CHAKRABORTY Tapan , LIN Baozhi , YU Mingyang , LIU Zhifei . Major/trace element and Nd/Sr isotope compositions of riverine sands in the Yarlung Zangbo-Brahmaputra-Ganges river system. A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2724462022

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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