A Big Earth Data Platform for Three Poles

**Application Research Database of low frequency LA-ICPMS analysis technology**

1、Description

The data is divided into excel format and JPG image format. JPG image format file and explanation are stored in word document.  
The table format data includes: the recommended values of Q and P under low frequency conditions, the results of LA-ICPMS determination of major and trace elements of atho-g under different laser frequencies, and the detection limits of element concentrations of atho-g under different laser frequencies.  
The JPG image format data include: the transmission pattern of aerosol inclusions produced by laser ablation of solid samples at 1 Hz and 10 Hz frequencies, the output signal diagram of mass spectrometer, the processing process of LA-ICPMS experimental data, the matching relationship between laser pulse and mass spectrometer data signal, the signal diagram of mass spectrometer data acquisition at 1 Hz laser, the signal diagram of mass spectrometer data acquisition at 1 Hz laser, the signal diagram of mass spectrometer data acquisition at 1 Hz laser The relative error and detection limit of LA-ICPMS experimental data under different laser frequencies were analyzed.  
This experiment was carried out in the mineral Micro Analysis Laboratory of ore genesis and Exploration Technology Research Center (oedc), School of resource and environmental engineering, Hefei University of technology from June 1, 2017 to December 1, 2019. The laser ablation system is analyte he of photon machine company. The laser source is compex102f 193nm excimer laser of German coherent company, and the ICPMS is Agilent 7900.  
Through the above data, we can get enough length of effective data, which overcomes the shortcomings of high frequency laser experiment. The transmission state of aerosol in the pipeline during laser ablation is analyzed, and a set of superposition integral homogenization processing algorithm is designed.

2、Keywords

Theme：Gravity,control surveys,Rocks/Minerals,LA-ICP-MS  
Discipline：Solid earth  
Places：Hefei  
Time：Cenozoic

3、Data details

1.Scale：None

2.Projection：

3.Filesize：2.04MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：31.8 | - |
| west：117.15 | - | east：117.25 |
| - | south：31.6 | - |

5、Time frame:None--None

6、Reference method

References to data:

WANG Fangyue. Application Research Database of low frequency LA-ICPMS analysis technology. A Big Earth Data Platform for Three Poles, doi:10.19658/j.issn.1007-2802.2019.38.1082021

References to articles:

闫海洋, 汪方跃, & 葛粲. (2020). 低频la-icpms分析技术应用性研究. 矿物岩石地球化学通报(1), 89-96.

7、Supporting project information

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

8、Data resource provider

name: WANG Fangyue  
unit:   
email: fywang@hfut.edu.cn