A Big Earth Data Platform for Three Poles

**EBSD , TIMA and seismic properties analysis data set of mylonitic amphibolite in the southeastern Tibetan Plateau**

1、Description

Data content: this data set is the EBSD and TIMA analysis and test results and seismic wave calculation results of mylonitic amphibolite in the southeast edge of Tibet Plateau. The EBSD test results obtain the crystal orientation data (CPO) of amphibole, mica and plagioclase. The mineral composition of the whole rock and the corresponding percentage content are obtained from the TIMA test results.The seismic properties is based on EBSD and TIMA data calculated by ANIS\_ctf software.
Data source and processing method: EBSD analysis was completed by FEI FEG-650 scanning electron microscope equipped with EBSD probe in the Key Laboratory of orogenic belt and crustal evolution, School of earth and Space Sciences, Peking University. The accelerating voltage is 20kV and the working distance is 18 mm., In order to avoid the error caused by mineral particle size to the calculation of orientation difference density function (ODF), we manually collected the crystal orientation data (CPO) of main minerals amphibole, mica and plagioclase by using EBSD point analysis mode of hkl Aztec software. The data of TIMA comes from the Key Laboratory of orogenic belt and crustal evolution of the Ministry of education of Peking University and is obtained by four high spatial and temporal resolution EDAX energy spectrometers mounted on tescan field emission scanning electron microscope. The test voltage is 25kV, the working distance is 15mm, and the beam spot is 100nm.
Description of data quality: the sample is a 27mm x 47mm standard sheet. EBSD test adopts manual point analysis mode, which avoids the error caused by mineral particle size to the calculation of orientation difference density function (ODF), and removes inaccurate identification points (MAD > 1.3 °), with high data quality and strong reliability. The TIMA scanning area is full film scanning, the scanning mode is high resolution, and the step size is set to 1 μ m。 Because four energy spectrum detectors are equipped, the data acquisition time is short, the accuracy is high, the requirements for sample morphology are low, the detection limit is low, the data quality is high and the reliability is strong.
Data application achievements and prospects: through the analysis of EBSD and TIMA data, we have defined the mineral assemblage characteristics of the lower crust on the southeast Tibet Plateau, which can be used for the calculation of rock seismic wave attributes and the study of the deformation model of the lower crust on the southeast edge of the Qinghai Tibet Plateau.

2、Keywords

Theme：Seismic anisotropy,Seismology
Discipline：Solid earth
Places：Ailaoshan
Time：Cenozoic

3、Data details

1.Scale：None

2.Projection：

3.Filesize：17.3MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：31.0 | - |
| west：97.0 | - | east：105.0 |
| - | south：20.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

HUANG Baoyou. EBSD , TIMA and seismic properties analysis data set of mylonitic amphibolite in the southeastern Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/Geo.tpdc.2718262021

References to articles:

7、Supporting project information

8、Data resource provider

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