

Regularity of mineralization ages in southeastern China

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In southeastern China, due to the existing of Mesozoic magmatism, late Mesozoic was considered to be the main mineralization stage. However, a lot of updating isotopic age data and new studies of the mineralization tectonic setting change the knowledge about the regularity of mineralization age in southeastern China. According to the new isotopic dating data, the main mineralization ages of metallogenic belt of southeastern China were corresponding to the following main three stages.

The first Pb, Zn and Ag mineralization age is Neoproterozoic. We distinguish the VMS type mineralization age from 825 Ma to 756 Ma by means of SHRIMP U-Pb zircon dating. During this stage, the mineralization is related to the collision between Cathaysia and Yangtze Blocks.

The second Au and Sn mineralization stage is early Mesozoic, which is a newly-discovered mineralization stage in southeastern China. According to the results of Re-Os isotopic age determination for Sn polymetallic deposits and Rb-Sr dating for Au deposits, it is confirmed that in the early Jurassic from 195Ma- 180Ma, when the Tethyan domain started to transform to Circum Pacific domain [1].

The third stage is from 110Ma to 90Ma (Ar-Ar isotopic ages). During this stage, mineralization related to magmatism in southeastern China which was controlled under the subduction from the Pacific ocean plate to the Eurasian plate.

From what has been discussed above, we can distinguish three mineralization stages, which are Neoproterozoic, early Mesozoic and late Mesozoic. And the mineralization tectonic settings were related to the evolution of Cathaysia during Neoproterozoic and the continuous southwestward subduction of the Pacific ocean plate (Grant Nos. 1212010813064 and 1212010533105).

[1] W.U. Ganguo *et al.* (2000) *Earth Science* **11**, 288-292.

Thrusting style and timing restriction in the western Fujian fold-thrust belt, SE China

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The western Fujian fold-thrust belt is situated on the eastern margin of South China Block. There are three NE-trending thrust belts from west to east [1]. The western thrust belt was controlled by that the Precambrian to early Paleozoic allochthonous strata with strong ductile deformation which overlay the late Paleozoic strata windows, representing the medium and deep level thrust. The central thrust belt consists of the large area autochthonous late Paleozoic stratigraphic sequences and the overlying Proterozoic and early Paleozoic strata, where the Proterozoic rock mainly appeared as knippes. The eastern thrust belt generally developed within the late Paleozoic and Mesozoic cover strata without any early Paleozoic and Proterozoic knippe. In the eastern belt, the imbricate stack just occurred within the post late Paleozoic strata with shallow level brittle deformation, controlled by the main detachment low angle surface between cover and basement, showing thin-skin thrust characteristic. According to the relationship of the thrusting involved strata and pluton's isotopic age in the above three different thrust belts, we can determine the thrusting age of the western and central ones could occur at about 203Ma (U-Pb zircon isotopic dating), whereas the eastern thrust belt occurred after early Cretaceous (U-Pb zircon isotopic dating 110Ma). In summary, we distinguish two different thrust units in the western Fujian fold-thrust belt, which are early and middle Mesozoic medium-deep level thick-skin thrust in the western and central area and late Mesozoic thin-skin thrust in the eastern part (Grant Nos. 1212010813064, 1212010533105 and B07011).

[1] Tao Jianhua (2008) *Fujian Geology* **27**, 105-124.