

## Exploration of the Shaxi Porphyry Cu-Au deposit in Anhui: Its tectonic environment for metallogenesis

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### Introduction

Shaxi porphyry Cu-Au deposit was one of the importance discoveries of the exploration in the middle-lower Reaches of River in China in 1970's [1]. The geological and geochemical study has been intensively invested and proved it as a prospecting area for porphyry Cu-Au mineralization [2-8]. Based on the basic geological-explored information and geochemistry of the Shaxi deposit, we proved that the Shaxi deposit has a big potential for Cu-Au exploration.

### Methods and Results

On the basis of the geological and geochemical studies, including chemical analysis on bulk rocks, REE and trace elements and stable isotopes, we provide evident proofs for the Shaxi porphyry Cu-Au deposit formation. The ore-forming processes and conditions were analyzed and the ore-forming model was established. It is proposed that Shaxi porphyry Cu-Au deposit was possibly formed in the subduction environment caused by West Pacific plate, which is a good discrimination for exploration of porphyry Cu-Au deposits.

This study is supported by The Public Geological Survey Management Center of Anhui Province, China.

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## Conditions of deformation and structural state of feldspars during mylonitization, south Tan-Lu fault belt

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### Introduction

Geologists have paid great attention to mylonites from various aspects (e.g. [1, 2]) since they record special phenomena in the geological process of crustal deformation. There are a series of ductile shear zones developed in slide formation of south Tan-Lu fault belt [3-5]. In this study, we intend to give an exemplified study on variations of compositions and structural state of feldspars under ductile shearing conditions presented felsic mylonites from several ductile shear zones in south Tan-Lu fault belt, east China.

### Methods and Results

Based on mineral assemblages and microstructure of the mylonitic rocks from ductile shear zones, south Tan-Lu fault belt, the characteristic of deformation of mylonites were fully investigated by microscope, SEM and TEM; the feldspars were analyzed by EPMA and XRD. We revealed that there are close correlations between the intensity of rock deformation and the variations of compositions and structure state of feldspars. The condition of differential flow-stress during mylonitization has been obtained, which reflects the changed condition of deformation during mylonitization. By definition of index of structural state of feldspar ( $I_{ss}$ ), the inner correlation between the deformation and structural state of feldspar was revealed. It is concluded that the structural state of feldspar is affected by the stress.

This study is supported by the National Natural Science Foundation of China (Grant No.: 40674071).

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