地质学报
ACTA GEOLOGICA SINICA

赵新福,李建威,马昌前.鄂东南铁铜矿集区铜山口铜(钼)矿床40Ar/39Ar年代学及对区域成矿作用的指示[J].地质学报,2006,80(6):849-862

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赵新福 李建威 马昌前

中国地质大学资源学院，中国地质大学资源学院，中国地质大学地质过程与矿产资源国家重点实验室 武汉，430074，中国地质大学地质过程与矿产资源国家重点实验室，中国地质大学地球科学学院，武汉，430074，武汉，430074，武汉，430074，武汉，430074，武汉，430074

基金项目：国家自然科学基金重点项目(编号40334037)，创新研究群体科学基金项目(编号40521001)联合资助成果。

DOI：

摘要：

铜山口铜-钼矿床发育有夕卡岩型和斑岩型两类矿化,是鄂东南矿集区内典型的夕卡岩-斑岩复合型矿床。成矿作用与铜山口花岗闪长斑岩岩株和大冶群碳酸盐岩有关,矿体主要沿两者的接触带分布。本文利用激光阶段加热技术分别对两类矿化有关的蚀变矿物金云母和绢云母进行40Ar/39Ar年龄测定。结果表明,铜山口矿区经历了两次蚀变—矿化事件:铜山口矿床成矿作用发生于约143±0.3 Ma,而矿区东南缘的牛鼻峰石英二长斑岩的热液蚀变发生于约129 Ma。牛鼻峰石英二长斑岩的侵位及蚀变对铜山口矿床斑岩型矿化的部分地段产生热扰动，导致绢云母40Ar/39Ar年龄比实际矿化蚀变年龄偏年轻。铜山口矿区两次蚀变-矿化年龄分别与长江中下游成矿带早晚两期成岩成矿事件(145-133 Ma和130-120 Ma)一致。岩石圈伸展及幔源玄武质岩浆底侵作用可能是区域上大规模岩浆活动与成矿作用的深部地球动力学因素。

关键词：铜山口铜-钼矿床 40Ar/39Ar年龄 鄂东南矿集区 成矿时代 底侵作用

40Ar/39Ar Geochronology of the Tongshankou Cu (Mo) Deposit in the Southeastern Hubei Fe-Cu Province: Implications for Regional Metallogeny

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ZHAO Xinfu,LI Jianwei,MA Changqian Faculty of Earth Resources,China University of Geosciences,Wuhan,Hubei,430074, State Key Laboratory of Geologic Processes and Mineral Resources,China University of Geosciences,Wuhan,Hubei,430074 Faculty of Earth Science,

Fund Project:

Abstract:

Both porphyry type and skarn type mineralization are developed in the Tongshankou Cu (Mo) deposit, southeastern Hubei Fe-Cu province. The genesis of the deposit is related to the Tongshankou granodiorite porphyry and the Lower Triassic Daye Group carbonates, and orebodies are primarily hosted in their contact region. This paper presents precise 40Ar/39Ar ages of alteration sericites and phlogopite related to the porphyry type and skarn type mineralization, respectively, obtained by laser incremental 40Ar/39Ar analysis. Our results suggest that the Tongshankou ore deposit and the granodiorite host formed at ca. 143 Ma; whereas the Niubifeng quartz monzonite occurred to the southeast of the mining area was emplaced at ca. 129 Ma. 40Ar/ 39Ar geochronometer of the Tongshankou deposit has been partially resetted by the later-stage magmatism. When combined with previous results, this study suggests that there are two phases of magmatism and its related mineralization in southeastern Hubei and other metallogenic regions along the middle-lower Yangtze River occurred at 145-133 Ma and 130-120 Ma, respectively. Magma underplating and subsequent lithospheric extension could have been the geodynamic setting responsible for the voluminous magmatism and large-scale mineralization.

Keywords:Tongshankou Cu-Mo deposit 40Ar/39Ar dating southeastern Hubei Fe-Cu province magma underplating

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