

## 湘南新田岭白钨矿床He,Ar同位素特征及Rb-Sr测年

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作者	单位	E-mail
<a href="#">蔡明海</a>	<a href="#">广西大学资源与环境学院, 广西南宁530004</a>	<a href="mailto:gxdxcmh@163.com">gxdxcmh@163.com</a>
<a href="#">韩凤彬</a>	<a href="#">广西大学资源与环境学院, 广西南宁530004</a>	
<a href="#">何龙清</a>	<a href="#">宜昌地质矿产研究所,湖北宜昌443003</a>	
<a href="#">刘国庆</a>	<a href="#">宜昌地质矿产研究所,湖北宜昌443003</a>	
<a href="#">陈开旭</a>	<a href="#">宜昌地质矿产研究所,湖北宜昌443003</a>	
<a href="#">付建明</a>	<a href="#">宜昌地质矿产研究所,湖北宜昌443003</a>	

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中文摘要:新田岭白钨矿床是湘南W-Sn多金属矿集区中的一个大型矽卡岩型矿床,产于骑田岭岩体北接触带.本文对矽卡岩矿石中1件黄铁矿样品进行了流体包裹体He、Ar同位素测定得 $3\text{He}/4\text{He}$ 值为4.08 Ra, $40\text{Ar}/36\text{Ar}$ 为342,反映了在矽卡岩矿床的成矿流体中亦有地幔流体的显著参与;运用石英Rb-Sr法获得成矿等时线年龄为 $(157.4 \pm 3.2)\text{Ma}(2\sigma)$ (MSWD=1.6), $87\text{Sr}/86\text{Sr}$ 初始值为 $0.71044 \pm 0.00012$ ,该年龄值与柿竹园超大型钨多金属矿床及芙蓉大型锡矿等的成矿年龄在测试误差范围内基本一致,表明中侏罗世是湘南地区钨锡成矿的高峰期.

中文关键词:[He-Ar同位素](#) [Rb-Sr测年](#) [新田岭白钨矿床](#) [湘南地区](#)

## He, Ar Isotope Characteristics and Rb-Sr Dating of the Xintianling Skarn Scheelite Deposit in Southern Hunan, China

**Abstract:**The Xintianling scheelite deposit, located in the northern contact zone of the Qitianling pluton, is a large-size skarn deposit. So far only very insufficient work has been done in this deposit. In this paper, He and Ar isotopes of fluid inclusions in pyrite was studied, and the ratio of  $3\text{He}/4\text{He}$  obtained is 4.08 Ra ( $\text{Ra}=1.4 \times 10^{-6}$ , modern atmospheric ratio), which is significantly higher than that of crustal fluids (0.01~0.05 Ra), suggesting that ore-forming fluids contain not only crustal-derived He but also ab...