

张燕,孙晓明,石贵勇,熊德信,翟伟,潘伟坚,胡北铭. 2011. 云南大坪金矿床赋矿闪长岩锆石SHRIMP U-Pb定年及其地质意义. 岩石学报, 27(9): 2600-2608

云南大坪金矿床赋矿闪长岩锆石SHRIMP U-Pb定年及其地质意义

作者 单位

[张燕](#) [中山大学地球科学系,广州 5102751](#); [华东有色地质勘查局,南京 210007](#)

[孙晓明](#) [中山大学地球科学系,广州 5102751](#); [中山大学海洋学院,广州 510275](#); [广东省海洋资源与近岸工程重点实验室,广州 519275](#)

[石贵勇](#) [中山大学海洋学院,广州 510275](#); [广东省海洋资源与近岸工程重点实验室,广州 519275](#)

[熊德信](#) [中山大学地球科学系,广州 5102751](#); [广东省肇庆学院,肇庆 526061](#)

[翟伟](#) [中山大学海洋学院,广州 510275](#); [广东省海洋资源与近岸工程重点实验室,广州 519275](#)

[潘伟坚](#) [中山大学地球科学系,广州 5102751](#)

[胡北铭](#) [中山大学地球科学系,广州 5102751](#)

基金项目: 本文受国家重点基础研究发展规划(973)项目(2009CB421006、2002CB412610)、国家自然科学基金(40830425、40673045、40373027)和高等学校博士学科点专项科研基金(200805580031)联合资助。

摘要:

云南大坪金矿床是哀牢山金矿带中最重要的金矿之一,主要赋存在受到强烈剪切和水-岩反应的闪长岩中,是典型的喜马拉雅期造山型金矿。本文对大坪金矿床赋矿闪长岩中锆石进行了SHRIMP U-Pb定年,得出闪长岩围岩的年龄为 $773 \pm 12$ Ma,为晚元古代,显示该岩体为华南地区晋宁-澄江期大规模基性到酸性岩浆活动的产物,是Rodinia 超大陆形成、裂解后冈瓦纳大陆形成过程的响应,而不是前人普遍认为的加里东期岩体。该岩体侵入年龄与大坪金矿脉石英流体包裹体 $^{40}\text{Ar}$ - $^{39}\text{Ar}$ 年龄测定给出的高温坪年龄( $765.5 \pm 7.0$ Ma)基本一致,显示大坪金矿床具有多期成矿的特征,其主体形成于喜马拉雅期碰撞造山运动,但早在晋宁造山运动中就有金的初步富集。在闪长岩中还发现了年龄为 $33.7 \pm 1.1$ Ma的锆石,其时代与大坪金矿床含金石英脉中热液绢云母的 $^{40}\text{Ar}$ - $^{39}\text{Ar}$ 定年结果( $33.76$ Ma)基本一致,显示它们很可能为该区强烈的韧性剪切和局部岩浆部分熔融作用的产物。

英文摘要:

Being one of the largest gold deposits in Ailaoshan gold belt, the Daping gold deposit is hosted in a ductile deformed and altered diorite batholith, and is believed to be a typical Cenozoic orogenic type gold deposit. In this study, SHRIMP U-Pb dating of zircon from the diorite batholith was performed, and the result is  $773 \pm 12$ Ma, suggesting that the diorite was a Late Proterozoic batholith, but not a commonly recognized Caledonian rock body. The diorite batholith is a product of large-scale basic to acidic magmatism during the Jinning-Chengjiang epoch, and is corresponding to a period of Gondwana accretion after Rodinian dispersion. The forming age of the diorite is nearly the same as the high temperature  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  plateau age ( $765.5 \pm 7.0$ Ma) of fluid inclusions in Daping auriferous quartz veins, suggesting that the Daping gold deposit was formed during multiple metallogenic epochs: the major ore body was formed during Cenozoic orogeny, while the gold mineralization was started during Jinning orogeny. Cenozoic epoch zircons are also recognized in the diorite, and the age  $33.7 \pm 1.1$ Ma is nearly the same as the  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  age ( $33.76$ Ma) of hydrothermal sericite from the Daping auriferous quartz veins, suggesting that the some of the zircons were probably formed during extensively ductile deformation and subsequent magmatic partial melting.

关键词: [锆石SHRIMP定年](#) [蚀变闪长岩](#) [造山型金矿](#) [大坪金矿床](#) [哀牢山金矿带](#)

投稿时间: 2010-02-28 最后修改时间: 2010-05-11

[HTML](#) [查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

本系统由北京勤云科技发展有限公司设计

linezing.com