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DOI：

摘要：

江西三清山国家地质公园位于扬子地块和华夏地块的接壤部位的赣东北地区。公园内的花岗岩是区域上怀玉山岩体的一部分，出露面积约98 km2。根据它们的接触关系可以划分为3期：第1期为中粗粒黑云母碱长花岗岩；第2期为中粒黑云母碱长花岗岩；第3期为细粒黑云母碱长花岗岩，其中以第2期的规模最大，公园内最重要的景点即分布于该期花岗岩内。利用SHRIMP锆石U Pb方法对第2、3期花岗岩的测年结果表明，其年龄分别为123±2.2 Ma和115.6±2.0 Ma，晚于区域上的成矿岩体。在矿物组成和化学成分特点上，这3期花岗岩基本相似，均由黑云母、条纹长石、钠长石（An<8%）和石英组成，发育晶洞构造，具有高Si（>75%）、高碱（7.7~8.8%）、低钙（<1%）、高FeO*/MgO（11~54）的特点。在微量元素特征上，明显富集REE（Eu除外）、Zr、Nb和Ta等高场强元素（HFSE），而Sc、Cr、Co、Ni、Sr和Eu等含量较低。此外，还具有高的10000×Ga/Al值特征（3.3~4.0），所有这些特征均说明其与I型和S型有明显区别，而具有A型花岗岩的特点，在相关判别图上属于A2型花岗岩，为造山后大陆壳熔融的产物，其形成于约10 km的深度，并于6 km左右发生侵位，侵位时的温度约850~900℃。

关键词：A型花岗岩 SHRIMP锆石U-Pb年龄 造山后

SHRIMP Ages, Geology, Geochemistry and Petrogenetic Type of Granites from the Sanqingshan Geopark, Jiangxi Province

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Abstract:

The Sanqingshan Geopark is situated in the northeastern Jiangxi province, which is a boundary area between Yangtze and Huaxia terrains. The Sanqingshan granite with an area of 98 km2 is a part of Huaiyushan intrusion within a larger area. Based on their contact relationship, it can be divided into three stages (from early to late): middle coarse grained biotite alkali feldspar granite, middle grained biotite alkali feldspar graniteand grained biotite alkali feldspar granite respectively. The second stage of granite is the largest one in the geopark, and most of the tourist views are concentrated in it. The SHRIMP U Pb zircon dating for the second and third stages yield ages of 123±2.2 Ma and 115.6±2.0 Ma respectively, which are later than the mineralized granitic rocks in the northeastern Jiangxi. All three stages of granites have similar mineralogy and geochemistry. They are composed of biotite, feldspar, albite (An<8%) and quartz, with hole structures, and they are characterized by high Si (>75%) and alkali (7.7%~8.8%), low Ca (<1%) and high FeO*/MgO (11~54). They also have relatively higher REE (except for Eu) and high strength field elements such as Zr, Nb and Ta concentrations, but lower Sc, Cr, Co, Ni, Sr and Eu concentrations. In addition, they have high Ga/Al (3.3~4.0), characterizing A type granite, neither I nor S types of granite. On the geochemical discrimination diagrams, they can be classified into A2 type, and formed during post orogenic movement. They originated from continental crust with about 10 km depth, and intruded around 6 km under the temperature of 850~900℃.

Keywords:A type granite SHRIMP U Pb zircon dating post orogen Sanqingshan

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