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摘要:

太山庙岩体位于华北陆块南缘豫西地区, 呈岩基产出, 出露面积约290km<sup>2</sup>。根据它们的接触关系可以划分为3期: 第1期中粗粒碱长花岗岩、第2期中粗粒碱长花岗岩、第3期碱长花岗岩。利用SHRIMP锆石U-Pb法对主要岩性中粗粒碱长花岗岩进行测年的结果表明: 其成岩年龄为 $115 \pm 2$ Ma, 晚于区域上的南泥湖等花岗岩斑体和文峪、花山、合峪等花岗岩基。在矿物组成和化学成分特点上, 这3期花岗岩基本相似, 主要由条纹长石、钠长石(An<10)、石英和少量的黑云母组成, 发育晶洞构造; 富含硅(SiO<sub>2</sub> 70.63%~76.59%), 偏碱(Na<sub>2</sub>O+K<sub>2</sub>O 8.23%~9.34%), FeO\*/MgO值相对较高(3.00~7.21), CaO和MgO含量低(分别为0.46%~1.18%和0.15%~0.65%), 准铝质—弱过铝质(A/CNK为0.95~1.13)的特点; 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, 还具有较高的Ga/Al比值特征(2.7~3.6), 所有这些特征均说明其与I型和S型花岗岩有明显的区别, 而具有铝质A型花岗岩的特点, 在相关判别图解上属于A1型花岗岩, 表明其形成于板内拉张环境。

关键词: [SHRIMP年龄](#) [地球化学特征](#) [铝质A型花岗岩](#) [太山庙岩体](#) [豫西](#)

SHRIMP Zircon U-Pb Dating and Geochemistry of the Taishanmia Aluminous A type Granite in Western Henan Province [Download Fulltext](#)

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Abstract:

The Taishanmia intrusion is situated in the western Henan province as a batholith, which is on the southern margin of the North China craton with an area of ca. 290 km<sup>2</sup>. Based on the contact relationship, it can be divided into three stages (from early to late): medium-coarse grained alkali feldspar granite, fine-medium grained alkali feldspar granite and alkali feldspar granite porphyry, respectively. The SHRIMP U-Pb zircon dating for the primary medium-coarse grained alkali feldspar granite yields an age of  $115 \pm 2$ Ma, which is later than Nannihu granite porphyries and Wenyu, Huashan, Heyu granite batholiths in this area. All three stages of granites have similar mineralogy and geochemistry. They are composed of primary perthite, albite(An<10), quartz and a small quantity of biotite, with miarolitic structures, and they are metaluminous and slightly peraluminous (A/CNK=0.95~1.13) and characterized by high silica(70.63%~76.59%), alkali(8.23%~9.34%), FeO\*/MgO(3.00~7.21) and low CaO(0.46%~1.18%) and MgO(0.15%~0.65%). 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 relatively high Ga/Al ratios (2.7~3.6), characterizing A type granite, neither I nor S types of granite. On the geochemical discrimination diagrams, they can be classified into A1 type, and formed during the lithospheric extensional movement.

Keywords: [SHRIMP U-Pb dating](#) [Geochemical characteristics](#) [Aluminous A type granite](#) [Taishanmia intrusion](#) [Western Henan Province](#)

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