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内蒙古大青山地区古元古代花岗岩:地球化学、锆石SHRIMP定年及其地质意义

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摘要：

内蒙古大青山地区沿固阳-武川断裂带南侧发现一条古元古代花岗岩岩带,由石英闪长岩-闪长岩-角闪二长花岗岩组合构成.本文对其中典型代表厂汉脑包石英闪长岩、常福龙闪长岩和口子村角闪二长花岗岩进行了锆石定年和地球化学研究.地球化学上,石英闪长岩具有埃达克质花岗岩的特点,为低硅埃达克质花岗岩;大部分闪长岩具有赞岐岩的地球化学特征,部分具Closepet花岗岩特征;角闪二长花岗岩则全部具有Closepet花岗岩特征.根据锆石SHRIMP U-Pb定年,它们形成于2416~2435Ma之间,并遭受古元古代晚期构造热事件改造.表明在该区古元古代早期真正意义的板块构造已起作用,从岩浆演化的角度说明前寒武纪构造体制发生重大转变.

英文摘要：

A Paleoproterozoic granitoid belt has been identified in the south of the Guyang-Wuchuan fault, Daqingshan Mountain, Inner Mongolia, western North China craton. It extends in a west-east direction and is mainly composed of quartz diorite, diorite and hornblende monzogranite. This paper reports SHRIMP zircon U-Pb dating and whole-rock geochimical results of representive intrusive bodies, namely Changhannaobao quartz diorite, Changfulong diorite and Kouzicun hornblende monzogranite. They show the geochemical features of adakitic granitoid, sanukitoids or Closepet granite, and Closepet granite, respectively. Zircon dating on the three types of rocks yielded magmatic ages of 2416~2435Ma, with late Paleoproterozoic metamorphic ages. This may suggest that modern plate-like tectonic regime appeared at the early Paleoproterozic in the North China Craton. Magmatic suites of adakitic granitoid-sanukitoid-Closepet granite (ASC) were formed in a transitional period of the Earth evolution from TTG formation in earlier stage to basalt-andesite-dacite-rhyolite (BADR) formation in later stage, meaning that geodynamic setting had been changed since the early Paleoproterozoic.

关键词：大青山 埃达克质花岗岩-赞岐岩-Closepet花岗岩 地球化学 SHRIMP 古元古代

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