

内蒙古东七—山花岗岩地球化学、锆石SHRIMP U-Pb年龄及岩体形成环境探讨

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作者	单位	E-mail
杨岳清	中国地质科学院矿产资源研究所	yangyueqing0@sina.com
吕博	中国地质大学(北京)	
孟贵祥	中国地质科学院矿产资源研究所	
严加永	中国地质科学院矿产资源研究所	
赵金花	中国地质科学院矿产资源研究所	
王守光	内蒙古自治区地质调查院	
贾玲珑	内蒙古自治区地质调查院	
韩建刚	内蒙古自治区地质调查院	

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中文摘要:古生代时期,北山地区的地壳活动非常强烈,主要表现为:早古生代初期大陆的裂解,一直到中奥陶世广阔大洋盆的发育。志留纪末,洋盆在自南向北的俯冲中封闭,使北侧的哈萨克斯坦板块和南侧的塔里木板块拼贴,并在碰撞造山过程中又构成了一个相对统一的陆块。在晚古生代,北山地区地壳又在另外一种形式中异常强烈活动,特别是自石炭纪到二叠纪,大规模的中酸性岩浆侵入活动构成本区重要的地质事件,其出露的花岗岩类占到了全区总面积的近1/3,但泥盆纪时期的地壳活动,特别是花岗岩浆的侵入活动常被人们忽视,笔者据泥盆纪时期的沉积-火山作用及挤压构造活动也较发育认为,海西早期也应有较强的花岗岩浆侵入活动。本文有针对性地对北山地区,原定为海西中期的东七—山花岗岩岩基,在岩石学和地球化学等方面研究基础上,对3处岩石中锆石首次进行了SHRIMP U-Pb年龄测定,其结果分别是(355±4) Ma、(359±4) Ma、(355±5) Ma,这表明东七—山花岗岩形成于泥盆纪晚期,从而确定了北山晚古生代早期也有花岗岩浆的强烈活动,这对深化北山古生代地壳演化过程有积极意义。

中文关键词:[花岗岩](#) [岩石地球化学](#) [锆石U-Pb年龄](#) [碰撞造山](#) [海西造山运动](#) [北山](#)

Geochemistry, SHRIMP Zircon U-Pb Dating and Formation Environment of Dongqiyishan Granite, Inner Mongolia

Abstract: During Paleozoic, the crustal movement was intense in Beishan area, which mainly found expression in the splitting of Early Palaeozoic unified continent and the formation of ocean basin in Middle Ordovician. At the end of Silurian, the oceanic basin was underthrusting in SN direction and was finally closed, that caused the collage between the northern side of the Kazakhstan plate and the southern Tarim plate as well as the formation of a relatively uniform plate. In Late Paleozoic, another movement occurred. From Carboniferous to Permian, the acid-intermediate magmatic intrusions in these areas made up important geological events. The outcropped area of granite occupies 1/3 of the total area. Nevertheless, researchers tend to ignore the crustal movement, especially the intrusion of granitic magma in Devonian period. The authors hold that the volcano-sedimentary and tectonic activities did occur in Devonian, so there existed strong magmatic intrusive activities in these areas in Hercynian period. Petrological and geochemical researches were conducted, and zircon SHRIMP U-Pb dating was performed for three granites, which yielded ages of (355±4) Ma, (359±4) Ma, (355±5) Ma respectively, suggesting that Dongqiyishan granitic batholith was formed in Late Devonian instead of in Middle Hercynian. It is thus thought that the collisional orogenesis in the Beishan Mountain during Early Late Paleozoic was accompanied by strong granitic magma activity, which played an important role in deepening the crustal evolution process of Palaeozoic in Beishan area.


keywords: [granite](#) [rock geochemistry](#) [zircon U-Pb dating](#) [collision orogenesis](#) [Hercynian orogeny](#) [Beishan](#)

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地址：北京市西城区百万庄大街26号，中国地质科学院东楼317室 邮编：100037 电话：010-68327396 E-mail: diqiuxb@126.com

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