Determination of the 2.5Ga A-type granite in Zanhuang area, North China: A case of Huangcha Pluton

YONGQIANG YANG[1], LUN LI[2], CHONGHUI YANG[3] and LILIN DU[4]

[1] *China University of Geosciences, Beijing 100083, PR China. yzr-1@163.com*
[2] *China University of Geosciences, Beijing 100083, PR China. lilun@qq.com*
[3] *Institute of Geology, CAGS, Beijing 100037, PR China.chhyang@cags. ac.cn*
[4] *Institute of Geology, CAGS, Beijing 100037, PR China.dulilin@cags. ac.cn*

The Zanhuang complex is located in eastern margin of Trans North China Orogen, and the Huangcha pluton is belong to the Zanhuang complex. In order to confirm the nature of the ～2. 5Ga Huangcha pluton which will provide critical evidence for matching extensional setting, the Huangcha pluton is conducted focusing on petrogenesis and dating, the LA-ICP-MS dating of zircon from the granite yielded an age of 2488±6 Ma. The pluton consists mainly of porphyritic monzonite in which rare melanocratic enclaves are present. Phenocrysts consists mainly of feldspar together with minor quartz. The rock has high εNd（t）value ranging from －0.06 to 0.88 with TDM2 ages of 2.79~2.87Ga. The Huangcha pluton shows features of A-type granite formed by anatexis of the Neoarchean TTG in an extensional setting after orogenic processes. The formation of Huangcha pluton further confirmed the stabilization of the North China Craton at the end of the Neoarchean.