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摘要:

南沙微地块一直被作为华南大陆的一部分, 但缺乏基底岩石学证据的支持。本文首次报道了南沙微地块花岗岩锆石岩浆锆石年龄。测年方法为激光剥蚀等离子体质谱(LA-ICPMS)测年技术。在站点S08 18获得2个斜长花岗岩样品年龄: 分别为 159.1 ± 1.6 Ma和 157.8 ± 1.0 Ma, 在站点S08 32获得两个二长花岗岩样品年龄: 分别为 153.6 ± 0.3 Ma和 127.2 ± 0.2 Ma, 表明它们为燕山期晚侏罗世—早白垩世岩浆事件的产物。其中 $153 \sim 159$ Ma年龄值可与南岭燕山期花岗岩年龄比较, 而 127 Ma年龄值可与浙闽沿海燕山期花岗岩年龄对比。一个样品中存在一个年龄为 656.7 Ma的残余锆石核, 结合中西沙发现的前寒武纪基底岩石资料, 表明南海内散落的微地块可能广泛存在前寒武纪结晶基底, 本区中生代花岗岩为古老陆壳重熔形成的。这一新的资料, 对研究燕山期岩浆作用在中国南部的影响范围、南海微陆块前寒武纪地质及微陆块的裂离动力学都具有重要意义。

关键词: [花岗岩岩石](#) [南沙微地块](#) [锆石^{U-Pb}年龄](#) [LA-ICPMS](#) [南海](#)

LA-ICPMS Zircon U-Pb Dating of Granitic Rocks from the Nansha micro block, South China Sea, and Its Geological Significance [Download Fulltext](#)

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Abstract:

The Nansha micro block in South China Sea has long been regarded as part of South China block, but no any petrologic evidence supports this idea. Using LA-ICPMS, this study firstly reports magmatic zircon ages for granitic rocks from the Nansha micro block, South China Sea. The ages for two plagiogranite samples from sampling location S08 18 are 159.1 ± 1.6 Ma and 157.8 ± 1.0 Ma, and those for two adamellite samples from sampling location S08 32 are 153.6 ± 0.3 Ma and 127.2 ± 0.2 Ma. The dating results suggest that these granitic rocks are the products of late Jurassic to early Cretaceous tectono-thermal events during the Yanshanian era, the ages for 153 to 159 Ma are comparable to those of the Yanshanian granite in the Nanling region, and that for 127 Ma is comparable to those of the Yanshanian granite in the Zhejiang-Fujian coastal region. Of them, a relic zircon core with an age of 656.7 Ma combined with petrologic data of for the Precambrian crystalline basement in the Zhongsha Xisha micro blocks, suggest that these micro blocks distributed within the South China Sea are likely to be the Precambrian basement. Mesozoic granite in these micro blocks may be the product of crustal remelting of the old Precambrian basement. The new data obtained in this study is of great significance in studying impact of Yanshanian magmatism on southern China, tectonic evolution of the South China Sea since late Mesozoic era, and rifting dynamics of micro blocks in the South China Sea.

Keywords: [granitic rock](#) [Nansha micro block](#) [zircon U-Pb](#) [South China Sea](#) [geological significance](#)

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