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中国东南部晚中生代构造伸展作用——来自海南岛基性岩墙群的证据

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摘要：

在系统地分析了海南岛文市、叉河、三亚地区的三处基性岩墙群的LA-ICP-MS锆石U-Pb年代学和元素地球化学特征的基础上,探讨了岩墙群的来源和其反映的地球动力学背景。文市岩墙群形成于约101Ma,叉河和三亚岩墙群形成于约93Ma; 主量元素化学特征显示它们属碱系列,微量元素化学特征为富集轻稀土元素和大离子亲石元素(Sr、K、Rb、Ba、Th),亏损高场强元素(Nb、Ta、Ti); Sr-Nd同位素组分显示其源区具有EM II特征。这两期岩墙群的存在,显示了海南岛地区在早白垩世晚期和晚白垩世早期存在两次构造伸展事件。海南岛90Ma左右岩墙群与广东、福建同时代的岩墙群构成中国东南沿海90Ma广泛发育的、呈近北东向展布的岩墙群带,它们具有相同成因机制,指示中国南部在90Ma左右时经历了强烈区域性拉张作用; 这些岩墙群虽来源于不同的地幔源区,但均与俯冲流体交代作用有关。

英文摘要：

Systematically LA-ICP-MS zircons U-Pb chronology and geochemistry research on dike swarms from Wenshi, Chahe and Sanya were analyzed in this paper, and then the source and dynamics background of these dike swarms were discussed. The Wenshi dikes were emplaced at 101Ma, while the Chahe and Sanya dike swarms were emplaced at 93Ma. They belong to alkaline series, characterized by enrichment in LILE (Sr, K, Rb, Ba and Th) and LREE; depletion in HFSE (Nb, Ta and Ti), and the mantle source shows an EM II signature according to Sr-Nd isotope. The forming of Wenshi dikes show the extensional tectonic of Hainan Island at about 90Ma, while Chahe and Sanya dikes show the extensional tectonic extension at 101Ma. The dike swarms from Hainan Island at about 90Ma and the coeval dikes from Guangdong, Fujian provinces constitute a dike strip which is NNE orientated at about 90Ma of SE China, and they have the same cause of formation, show that it was at a strong lithosphere extension stage at about 90Ma. Though these dike swarms were from different mantle source, they were related to subducted liquid replacement.

关键词：[锆石U-Pb定年](#) [岩石地球化学](#) [基性岩墙群](#) [晚白垩世](#) [海南岛](#)

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