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滇西点苍山—哀牢山变质岩系锆石SHRIMP定年及其地质意义

作者 单位

[李宝龙](#) [北京大学地球与空间科学学院, 造山带与地壳演化教育部重点实验室, 北京 100871](#)

[季建清](#) [北京大学地球与空间科学学院, 造山带与地壳演化教育部重点实验室, 北京 100871](#)

[付孝悦](#) [中国石化勘探南方分公司, 成都 610041](#)

[龚俊峰](#) [北京大学地球与空间科学学院, 造山带与地壳演化教育部重点实验室, 北京 100871](#)

[宋彪](#) [北京离子探针中心, 中国地质科学院地质研究所, 北京 100037](#)

[庆建春](#) [北京大学地球与空间科学学院, 造山带与地壳演化教育部重点实验室, 北京 100871](#)

[张臣](#) [北京大学地球与空间科学学院, 造山带与地壳演化教育部重点实验室, 北京 100871](#)

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摘要:

滇西点苍山和哀牢山主体分别由下元古界苍山群和哀牢山群深变质岩系组成,被认为是前寒武纪结晶岩(DCS-1)和哀牢山元江段黑云母花岗闪长质片麻岩(SM07-1)之中的锆石进行U-Pb SHRIMP定年。得到 233 ± 2.6 Ma和 239.8 ± 2.8 Ma。结合前人对滇西地区花岗质岩类所做的研究,揭示滇西地区在三叠纪:点苍山花岗质糜棱岩和哀牢山花岗质片麻岩的原岩为三叠纪侵位的花岗岩,其构造环境属于大陆裂谷,反对调整,而该变质岩系不是前寒武纪的结晶基底,其变质作用与山体出露地表过程和新生代构造作用有关。

英文摘要:

Ailao Shan-Diancang Mountain Ranges, which are situated in the west part of Yunnan distinctive topography, geomorphology and geological structures. The principal part of the Ailao Mountain Range is composed of high metamorphic rock series, which are considered as the basement of the Yangtze Plate. In this paper, U-Pb ages of zircons from granodioritic mylonite (DCS-1) and biotite granodioritic gneiss of Ailaoshan Mountain (SM07-1) have been determined by ion microprobe method (SHRIMP). The zircons from the samples yield a concordant age of 233 ± 2.6 Ma (DCS-1, MSWD=1.47) and 239.8 ± 2.8 Ma (SM07-1, MSWD=1.9) respectively. According to the results of zircon U-Pb geochronological studies, it is concluded that the Ailao Mountain Range has experienced an extensively Triassic magmatism. The protolith was the result of tectonics related with the continental rift tectonic environment. The Triassic magmatism brought about the crustal thickening, which have characteristics of "bimodal". The metamorphic rocks in the Ailao Mountain Range, as the metamorphic basement of Yangtze Plate, its metamorphism is due to the process of tectonic evolution.

关键词: [锆石U-Pb定年](#) [变质作用](#) [大陆裂谷](#) [点苍山—哀牢山](#)