

论文

青藏高原双湖地区二叠系玄武岩地球化学及其大地构造意义

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摘要:

对青藏高原羌塘地块中部双湖地区发育的二叠系碱性系列和拉斑系列玄武岩进行了详细的地球化学研究。碱性系列玄武岩富集LILE和LREE,其La/Nb比值和OIB相近,Ti/V比值明显高于典型MORB,在微量元素构造环境判别图解上位于OIB区域。拉斑系列玄武岩具有相对平坦的稀土元素配分模式,和典型MORB相比,其Ti/V比值也明显偏高,在微量元素构造环境判别图解上位于MORB和OIB重合的区域,表明岩石起源于一个低度富集的地幔源区。结合区域地质背景,认为双湖二叠系拉斑系列碱性系列玄武岩组合可能形成于陆间裂谷到小洋盆环境,这套玄武岩的产出可能代表古特提斯洋沿龙木错—双湖构造带在不同地区的发育程度不同,双湖地区在二叠纪应为一个陆间裂谷到小洋盆环境。

关键词: [羌塘地块](#); [龙木错—双湖缝合带](#); [地球化学](#); [裂谷](#)

Geochemistry and Tectonic significance of the Permian basalt in Shuanghu Area, Tibetan Plateau.

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Abstract:

This paper reports the petrological and geochemical characteristics of Permian alkaline and tholeiitic basalts in the Shuanghu Area, central Qiangtang Block. The alkaline basalts are enriched in LILE and LREE, compared with MORB; they have similar La/Nb ratios and higher Ti/V ratios; in the trace element tectonic setting discrimination diagrams, all the alkaline samples are plotted in the field of OIB. The tholeiitic samples have flat REE pattern that is similar to MORB; they have higher Ti/V ratios than those of the MORB; in the trace element tectonic setting discrimination diagrams, all the tholeiitic samples are plotted in the overlapping field between OIB and MORB; these features suggest that the tholeiitic basalt was derived from a relatively enriched mantle source. When coupled with the regional tectonic setting, it is considered that the Permian alkaline tholeiitic basalts association in the Shuanghu Area was formed in the rift valley setting, and their occurrence may indicate a process from rift valley to juvenile oceanic crust along the Longmucuo-Shuanghu tectonic zone.

Keywords:

[Qiangtang Block](#); [Longmucuo-Shuanghu Suture](#); [geochemistry](#); [rift valley](#)

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