

# 中亚造山带南缘同碰撞板片断离-软流圈上涌导致的拉斑玄武岩浆作用

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**关键词:** 中亚造山带, 同碰撞, 板片断离, 软流圈上涌, 拉斑玄武岩浆活动

中亚造山带南缘一系列岩浆硫化物含矿岩体的形成被认为与早二叠地幔柱活动的产物。本次研究以其中最主要的镁铁-超镁铁岩带, 即北天山黄山-镜儿泉岩带为例, 通过地质及地球化学研究, 表明这些岩体的形成很难用地幔柱岩浆作用解释。黄山-镜儿泉岩带的岩体都具有低  $K_2O$ ,  $TiO_2$  与  $(Fe_2O_3)_T/MgO$  比值呈正相关的特点, 显示出拉斑玄武岩浆系列的特点。然而, 相对于 MORB 而言, 大离子亲石元素富集、高场强元素亏损 (特别是 Nb、Ta 亏损) 的特点表明其地幔源区受到过俯冲物质的强烈改造; 全岩 Pb 同位素及铬铁矿成分表明部分熔融过程中有软流圈物质的参与。另一方面, 北天山地区晚石炭系地层的缺失及沿黄山-镜儿泉岩带南缘阿奇克库都克缝合线早二叠世回返蓝片岩和榴辉岩的出现, 表明微陆块碰撞发生在晚石炭-早二叠。我们认为微陆块碰撞过程中, 俯冲洋壳的断离导致的软流圈上涌引发先前受俯冲物质交代改造的地幔楔发生部分熔融的关键因素和主要机制, 这样的岩浆在 270-285 Ma 这样一个较短的时间上升到地壳形成了延绵约 500km, 线状分布的黄山-镜儿泉含矿镁铁-超镁铁岩带。

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