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壳幔Rb—Sr混合等时线及其地质意义 [点此下载全文](#)

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摘要:

本文利用二元混合模型讨论了壳幔物质的不同混合环境对Rb—Sr等时线年龄的影响。一般情况下,混合作用将使岩体的同位素年龄变大;若地壳物质在混合之前经受过Rb丢失和(或)Sr获得事件,则等时线斜率的变化较大,可能得到很大的年龄和异常低的初始同位素比值,甚至斜率为负值。对一组分离的底辟小岩体而言,同一底辟岩体作矿物内部等时线能够得到结晶年龄,但用不同岩体的全岩得到的等时线则可能给出围岩年龄(条件是各底辟

关键词: [壳幔混合](#) [地质事件](#) [铷—锶等时线](#) [地质意义](#)

Effect of Crust-Mantle Mixing Environments on Rb-Sr Isochron Age and Its Geological Significance [Download Fulltext](#)

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Abstract:

The effect of different crust-mantle mixing environments on Rb-Sr isochron ages is discussed in terms of a two-component mixing model. Normally, the mixing of mantle magma with crust material will result in an older isotopic age than the crystallization age of a magmatic massif. If the crust material experienced a Rb-lost or/and Sr-gained event, the slope of the isochron will vary greatly depending on the isotopic ratios of the two components. The slope may result in a very old age and abnormally low initial isotopic ratio, sometimes even a negative slope. If the mixing was done through separate diapirism, the crystallization age for the series of small diapirs can be derived by the internal mineral isochron of a single small diapir, and the age of the country rock may also be derived by the whole-rock isochron of different diapirs (assuming the same mixing proportions for every diapir). The present study can shed light on some confusion in interpreting Rb-Sr isochron ages.

Keywords: [crust-mantle mixing](#) [geological events](#) [Rb-Sr isochron](#) [age significance](#)

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