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山东蓬莱、临朐新生代碱性玄武岩的钕、锶同位素组成 [点此下载全文](#)

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摘要:

本文报道了鲁东和鲁西新生代碱性玄武岩13个样品的Nd、Sr同位素组成, $-(^{143}\text{Nd})/-(^{144}\text{Nd})=0.512967-0.49-0.70450$ 。它们在地质剖面上呈现规律性变化, 可能与其地幔源区同位素组成的层状分带有关。鲁西地幔源区及地幔源区在演化中都曾发生过地幔交代(或富集)作用, 根据玄武岩Nd同位素模式年龄估计地幔交代作用发生的时

关键词: [钕同位素](#) [锶同位素](#) [碱性玄武岩](#) [山东省](#)

THE NEODYMIUM AND STRONTIUM ISOTOPIC COMPOSITIONS OF CENOZOIC ALKALIC BASALTS FROM PENINSULAR SHANDONG PROVINCE [Download Fulltext](#)

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Abstract:

Cenozoic alkali basaltic rocks at the Wuliqiao-Chishan section of the Penglai area, eastern Shandong, and Baogushan-Jiaoyeshan-Xiaoyaoshan section of the Lingqu area, western Shandong, are composed of olivine alkali olivine basalts, some of which contain spinel/hercynite xenoliths and megacrysts. The neodymium compositions of 13 samples are reported in the paper, and their variation ranges are as follows: $-(^{143}\text{Nd})/-(^{144}\text{Nd})=0.512771$ and $-(^{87}\text{Sr})/-(^{86}\text{Sr})=0.70405-0.70448$ in the Penglai area, eastern Shandong, and $-(^{143}\text{Nd})/-(^{144}\text{Nd})=0.49-0.70450$ and $-(^{87}\text{Sr})/-(^{86}\text{Sr})=0.70349-0.70450$ in the Lingqu area, western Shandong. It is evident that the Sr compositions in the mantle sources beneath both areas are heterogeneous based on the isotope composition. The most depleted mantle component in the Lingqu area is similar to PREMA-type mantle. This end component is of important significance in the origin of Cenozoic continental China. From the decoupling between the isotopic compositions and the trace element abundance pattern beneath both areas, it is inferred that mantle metasomatism (or trace element enrichment) had occurred. The time of mantle metasomatism is estimated at 0.45 Ga by means of the Nd isotope model age of alkali

Keywords: [Nd isotopes](#) [Sr isotopes](#) [alkali basalts](#) [Shandong](#)

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