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大贵州滩二叠系—三叠系界线附近锶同位素组成特征 [点此下载全文](#)

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摘要:

位于贵州南部的“大贵州滩”上, 二叠系—三叠系界线附近地层为一套连续的发育完整的碳酸盐岩。二叠系顶部主要为厚层生物屑泥粒灰岩, 而三叠系底部则主要为钙质微生物骨架灰岩及厚层粒泥灰岩。穿过二叠系—三叠系界线的取样累计厚度81m, 二叠系和三叠系大致各占一半的厚度, 共取样品91件,  $n(87\text{Sr})/n(86\text{Sr})$  值变化在0.707269~0.707409之间, 平均为0.707327, 低于现代海水的锶同位素比值的平均值(0.7090737)。锶同位素比值变化曲线表明从晚二叠世末期到早三叠世初期, 同位素比值虽小幅度的起伏波动频繁, 但总体上没有明显变化, 三叠系底部的平均值(0.707330)略高于二叠系顶部的平均值(0.707323)。大贵州滩晚二叠世末至早三叠世初锶同位素组成的总体演化趋势与扬子台地及世界其它地方同时期的锶同位素组成的演化趋势(呈急剧的上升)不同, 造成这种状况的原因可能是在全球事件控制的大背景下, 由于大贵州滩特殊的环境条件, 陆源物质对其影响小, 导致了壳源锶对锶同位素组成的制约作用减弱, 因而锶同位素组成未发生明显变化。

关键词: [锶同位素](#) [二叠系—三叠系界线](#) [碳酸盐岩](#) [大贵州滩](#)

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Abstract:

The strata about Permian—Triassic boundary are carbonates continuously developed on the Great Bank of Guizhou in Southern Guizhou Province. The top of the Upper Permian is massive bioclastic packstone, while the bottom of the Lower Triassic is calcimicrobial framestone and wackestone. 91 marine carbonete samples were sampled from the profile across the Permian—Triassic boundary, with a thickness of 81 meters.  $n(87\text{Sr})/n(86\text{Sr})$  ratios vary from 0.707269 to 0.707409; average value of  $n(87\text{Sr})/n(86\text{Sr})$  is 0.7073287, less than the average value (0.709073) of the modern seawater. The Sr isotope curve of this profile indicates that the  $n(87\text{Sr})/n(86\text{Sr})$  ratios did not vary distinctly from the top Permian to bottom Triassic as a whole; whereas the curve waves continually in a small extent from Latest Permian to the beginning of the Triassic. The average value (0.707330) of the bottom Triassic is appreciably higher than that (0.707323) of the top Permian. The evolution trend of  $n(87\text{Sr})/n(86\text{Sr})$  ratios in the Great Bank of Guizhou, i.e., the Sr isotope composition has not obvious change from top Permian to bottom Triassic, is different from those (remarkable rise from the Latest Permian to the beginning of the Triassic) in the Yangtze platform and other places of the world, which may be resulted from that the Great Bank of Guizhou, even though being controlled by global events, has a special environmental condition, being less influenced by terrigenous matter, the crustal strontium action on Sr isotope composition being very weak.

Keywords: [strontium isotopes](#) [Permian—Triassic boundary](#) [carbonete](#) [Great Bank of Guizhou](#)

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