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渐进式扩张海盆亚丁湾与南海西南次海盆扩张演化特征的对比

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A comparison on tectonic evolution characteristics of ridge propagation between the Gulf of Aden and the Southwestern Sub-basin, South China Sea

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摘要

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摘要 本文总结了渐进式扩张洋中脊和渐进式演化海盆的全球空间分布,并将西南次海盆与典型渐进式演化的亚丁湾加以对比,通过对海盆扩张中心的起源、扩张中心分段特征、火山活动、磁异常特征等的比较,为西南次海盆的演化提供新观点,为南海的演化观点寻找新证据.西南次海盆为渐进式扩张的海盆,与东部次海盆属于同一期扩张形成,海盆的渐进式扩张与渐进式扩张的方向很有可能受到地幔热柱(印支地幔柱、南海中部低速柱或海南地幔柱)的控制.南海的扩张演化模式并不是单一的,而是多种模式的综合,在考虑海底演化模式时应该同时考虑地幔柱的影响.

关键词: 渐进式张裂扩张 全球分布 亚丁湾 南海西南次海盆

Abstract: In this paper, we summarized the global spatial distribution of ridges and the sea basins which are formed by propagating rifting and spreading, and also gave a comparison between the Gulf of Aden and the Southwestern Sub-basin. Through the comparison of the origin and the characteristics of the spreading center, volcanic activities, magnetic anomalies and so on, we proposed a new view of the tectonic evolution of the Southwestern Sub-basin, and we also found new evidence for the tectonic evolution of the South China Sea. The Southwestern Sub-basin was formed by propagating rift and spreading at the same period with the Eastern Sub-basin. Propagating spreading and its orientation are possibly controlled by mushroom-shaped mantle plume, the Indo-Sinian or Hainan mantle plumes. We can not only take one evolution model into consideration when we discuss the formation of the South China Sea. On considering the seafloor spreading model, mantle plume interaction should also be put into it.

Keywords: Propagating rifting and spreading Global distribution Gulf of Aden Southwestern Sub-basin

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