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南海的右行陆缘裂解成因 [点此下载全文](#)

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摘要:

南海成果是西太平洋边缘海动力学研究的重要部分, 也关系到特提期, 环太平洋两大超级会聚带的相互作用热点问题。西太平洋边缘海内带, 尤其是日本海和南海在形成时代, 海盆形态和海底地貌, 海底扩张的多轴, 多圈地幔的地球化学异常等方面具有共同特征, 可能在成因上也相似, 南海的海盆的楔形的楔形形状, 海底扩张和自东向西推进的特征, 地壳伸展减薄和海底扩张程度的由东向西减弱都可用尖端向西的“剪刀模型”来描述, 切力作用下东亚陆缘发生裂解的结果。南海张开的同时在海盆内及其西缘印支半岛上发育大量近南北向右行走滑南北向右行剪切应力, 而在其东缘现在看不到大型近南北向右行走滑断裂, 可能是在中中新世以后受从赤道附近的菲律宾群岛所破坏的结果。晚中生代以来, 在西太平洋构造域, 特提斯构造域西段(印度)及东段(澳大利亚同方向和速度的会聚。在这三大作用的复合和竞争的动力学背景下, 东亚陆缘发生了有地幔参加传动的“超级剪体制和右行张扭体制交替的阶段性变化, 正是在特提斯构造域西段的会聚起主导作用的阶段, 东亚陆缘在右行引了南海和其他内带边缘海。

关键词: [南海成因](#) [陆缘裂解](#) [东亚陆缘](#) [边缘海](#) [超级剪切](#) [边缘海动力学](#)

Opening of the South China Sea by Dextral Splitting of the East Asian Continental Margin
[Fulltext](#)

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Abstract:

The origin of the South China Sea has long been a hot subject of research, as it is related large convergent zones, the Tethys and the Circum-Pacific, as well as to the geodynamics of the margin of the West Pacific. The Sea of Japan and the South China Sea, as part of the inner zone of the West Pacific margin, have common features such as the age, shape and topography of the sea basin, the multi-axial and multi-directional westward propagating crustal extension, and the mantle geochemistry. These may imply their common basin has a cuneiform shape. The seafloor spreading in the South China Sea and the rifting of its margin are characterized by southward jumping and westward propagating development. The crustal extension can be portrayed as a westward tipping scissors, whose opening was caused by the splitting of the East Asian continental margin under approximately N-S oriented dextral shearing. Numerous N-S running dextral faults developed within the South China Sea basin when it was opening, indicative of the existence of dextral shearing. The present eastern border of the South China Sea is occupied by a N-S running subduction zone, not a dextral shear zone. The destruction of previous structure by the docking and obduction of the Philippine present Manila trench. Since the Late Mesozoic, convergence toward Eurasia with various directions from the West Pacific domain, the Indian segment of the Tethys domain, and the Australian segment of the Tethys domain, the convergent forces competed and compounded each other, forming the geodynamic background for the dextral shearing in the margin of East Asia. This shearing was characterized by the alternative sinistral dextral transtension, and might be driven by convergence-induced mantle flow. In the period when the Tibetan convergence predominant, the East Asian margin was split under the stress field of dextral shearing. The South China Sea and other seas of the inner zone of the West Pacific margin

Keywords: [origin of the South China Sea](#) [splitting of continental margin](#) [East Asia continental margin](#) [shear](#)