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中国西部盆山系统的耦合关系及其动力学模式——以龙门山造山带—川西前陆盆地系统为例 [点此下](#)

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摘要:

造山带与沉积盆地是形成于统一的地球动力学系统之中的一对孪生体, 由此构造了盆山系统。盆山系统是耦合的复杂系统, 主要表现为物质的循环系统和能量的交换系统。盆山系统形成演化过程中造山带和沉积盆地之间的耦合关系。盆山系统是中国西部中生代构造的基本格局, 并有单侧盆地型盆山系统和双侧盆地型盆山系统。旋回构造运动和陆内构造活动强烈等是中国西部盆山系统形成演化的地质背景。中国西部盆山系统盆山间耦合关系呈现沉降呈镜像关系, 在横向上表现为物质流和能量流循环均有两个传递方向, 并且盆山系统岩石圈各层圈部盆山系统盆山间耦合关系的动力学模式为C(陆内)一型俯冲, 对于单侧盆地型盆山系统其耦合关系的动力学模式为T(天山)一型俯冲。

关键词: [盆山系统](#) [耦合关系](#) [龙门山造山带](#) [中国西部](#) [沉积盆地](#) [动力学模式](#) [C一型俯冲](#)

Coupling Relationships of Sedimentary Basin-Orogenic Belt Systems and Their Dynamic Model
Case Study of the Longmenshan Orogenic Belt-West Sichuan Foreland Basin System [Do](#)

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Abstract:

Orogenic belts and sedimentary basins are twins developed in a geodynamic system, which form an orogenic belt system. A sedimentary basin-orogenic belt system is a complex system formed by the coupling of different blocks and the coupling of different spheres in the lithosphere, both of which are substance cycle and energy exchanging systems. The coupling relationships between sedimentary basins and orogenic belts refer to the interactions in their formation and evolution. Sedimentary basin-orogenic belt systems are characterized by the Mesozoic-Cenozoic structural pattern in West China. There are two fundamental types of sedimentary basin-orogenic belt system in West China, i. e. simple-flank-basin sedimentary basin-orogenic belt system and double-flank-basin sedimentary basin-orogenic belt system. Microcontinental amalgamation, multi-cycle tectonic movements and intensive tectonic activities are the main geologic setting of the formation and evolution of sedimentary basin-orogenic belt system in West China. The coupling relationships of sedimentary basin-orogenic belt systems include: (1) enantiomorphous relationship between the uplifting of orogenic belts and the vertical subsiding of sedimentary basins, (2) bi-directional flow of matter and energy in the horizontal direction, and (3) intensive interactions between different spheres. The coupling relationship dynamic model of the sedimentary basin-orogenic belt systems in West China includes: (1) L (Longmenshan)-subduction for the simple-flank-basin sedimentary basin-orogenic belt system, which is an L (Longmenshan)-subduction for the simple-flank-basin sedimentary basin-orogenic belt system, and (2) T (Tianshan)-subduction for the double-flank-basin sedimentary basin-orogenic belt systems.

Keywords: [sedimentary basin-orogenic belt system](#) [coupling relationship](#) [dynamic model](#) [C \(intracontinental subduction\)](#) [western China](#)