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**Variation characteristics of tectonic stress tensors on Longmen-Shan fault belts and the new interpretation of the dynamics of Wenchuan earthquake**

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The 12 May 2008 Wenchuan Ms8.0 earthquake, occurring on the Longmen Shan fault zone, has received much attention of international geosciences and motivated numerous studies in China and elsewhere in the world. Some representative dynamic models have been proposed to explain the mechanical genesis of this great shock, such as rigid block extrusion [1] [2], Lower crust channel flow [3] [4] [5] and combination of multiple units [6]. However, the single mechanism can not explain all the geological and geophysical phenomenon of the Wenchuan earthquake. Therefore, in this research work we first invert tectonic stress tensors from the fault slip data of Longmen Shan fault at upper crust and analyze its segmentation characteristics. Second, use focal mechanism solutions of the relocated Wenchuan earthquake sequence to invert the variation characteristics of coseismic tectonic stress on the different segments and at the different depth of Longmen Shan fault. Last, combined with GPS research results at the earth's surface and geophysics results from low crust and mantle try to propose a new dynamic model to interpret Wenchuan earthquake.

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