

## **Active Strike-Slip Faulting and Major Earthquakes in North China**

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Major Earthquakes occurred in North China are mainly generated by strike-slip faults. The compression stress which dominates the regional stress field in North China is trending NEE to WE. It appears that earthquakes in this region take advantage of pre-existing weak zone which are favorably oriented for the strike-slip faulting to occur. The pre-existing NNE trending faults and NWW trending faults are the most earthquake-prone. All the NNE trending faults have right-lateral components and the NWW trending faults have left-lateral components, making a regional conjugate shear pattern. The fossil rifting zones with Mesozoic or Early Cenozoic age are the most favorable seismogenic structures, where the crust was considerably necked and weakened.

Focal mechanism studies show that the strongest earthquake in this region with magnitude near 8 is a multiple-fault event, composed of subevents with different fault plane solution, so that the overall fault has a zigzag shape.