

QUATERNARY TECTONIC STRESS FIELDS AND EVENTS IN THE NORTH AND EAST MARGINS OF TIBET

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By inversion of Quaternary tectonic stress fields from fault slip data and the analysis of crustal deformation after late Tertiary, we explained the process of crustal deformation and the transformation of fault movement in the north and east margins of Tibet (Qing-Zang Plateau) since Miocene. From middle or late Miocene to early Pleistocene, the tectonic stress field was featured by a maximum principal compressional stress perpendicular to the boundary of the plateau, and the stress regime was basically of reverse faulting. The faults located in the north and east margins were mainly reverse faults. Since the end of early Pleistocene, India Plate continues to push northward and the crustal compressional deformation of the plateau increases continuously. Meanwhile NW-SN direction of extension appears on the eastern side of the plateau and forms a favorable condition for interior blocks of the plateau to slide towards east and southeast. It results in the faults located in the north and east margins of the plateau to change from thrust to strike-slip. Then the recent tectonic stress field was formed. And the stress pattern have been lasted from the end of early Pleistocene to present. The direction of maximum principal stress of recent tectonic stress field rotated clockwise with respect to the previous tectonic stress field. The stress regime of recent tectonic stress field is mainly of strike-slip type.