

Review and Prospect of Seismo-Geologic Research in China

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The focal point of the research of active tectonics in China has been transferred from the simple appraisal of Quaternary active faults to the quantitative study of the faults which have been active since late Pleistocene (0.02~0.03Ma). The average recurrence interval and the potential maximum magnitude of strong earthquake along the whole fault or specific segment of more than 10 active faults in China have been calculated on the basis of reliable data on fault displacement, average slip rate, the maximum and average displacement of historical strong earthquake, as well as the segmentation of fault rupture. The research of paleoearthquake in China has focused on the regional paleoseismicity of seismically active region, instead of an individual place or fault zone. For example, paleoseismic research on 3 arcuate fault zones on the northeastern margin of Qinghai-Tibet Plateau and in Yunchuan Basin, have indicated that paleoseismicity is characterized by sub-periodic recurrence and oriented migration with time. The research of paleoseismicity in China has indicated that under the conditions of the assemblage of complicated intraplate block structures with the faults, it seems that the seismicity may mostly inhibit a sub-periodic recurrence or clustered occurrence of large earthquakes. The research of the coupling relation between the shallow and deep-seated seismogenic structures has been carried out in the extensional basin region of North China and in the compressive convergence tectonic zone of Northwest China. The fault-generated pseudotachylite exposed at the eastern foot of Dabieshan Mountains demonstrate a relatively complete paleoseismic source body and has been investigated in detail.