

## Strike-slip rate of the southern part of Kangding fault zone, East Tibet

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The strike-slip rate of the southern part of Kangding fault zone was estimated. The strike-slip rate of the Anninghe fault in Holocene is  $6.7 \pm 0.5$  mm/yr. The strike-slip rate of the Zemuhe fault was estimated to be 5.1-6.9 mm/yr. The total strike-slip rate of the Xiaojiang fault is 5.65-6.56 mm/yr, in which  $3.18 \pm 0.01$  mm/yr along the western and  $2.47 \pm 0.01$  mm/yr along the eastern. Therefore, the strike-slip rate of the southern part of the Kangding fault zone since Late Pleistocene should be 5-7 mm/yr.

**1. Introduction** Several strike-slip faults dominates the active tectonics of eastern Tibetan Plateau. Kangding fault zone, one of these major strike slip faults, is integrated of the following faults: Ganzi fault, Xianshuihe fault, Anninghe fault, Zemuhe fault and Xiaojiang fault. As a very important step for understanding the active tectonics of Tibetan Plateau, the strike-slip rate of the southern part of Kangding fault zone (the later three faults) was estimated.

**2. Methods** First, the typical fault landform along the fault zone was taken out on the basis of the interpretation of large-scale topographic map and aerial photography. The strike-slip amount of the fault, then, was estimated by the displacement of the chosen reference stream, and the date of the slip was estimated by the C14 and TL date of the landform surface, principally terrace and alluvial fan, that was cut by the reference stream.

**3. Results** (1) strike-slip rate of the Anninghe fault in Holocene is  $6.7 \pm 0.5$  mm/yr estimated by the 27.5m offset of a stream and the TL date BP.4.1 $\pm$ 3kyr of the alluvial fan that was cut by the stream. (2) strike-slip rate of the Zemuhe fault was estimated to be 5.1-6.9 mm/yr by the 85m average offset of an alluvial fan and the date BP.13.29 $\pm$ 04kyr of a TL sample and date BP.15.63 $\pm$ 99kyr (Ren, 1986) of a radiocarbon sample taken from the alluvial fan. (3) total strike-slip rate of the Xiaojiang fault, consisting of eastern and western branches, was estimated to be 5.65-6.56 mm/yr, in which  $3.18 \pm 0.01$  mm/yr was calculated by 55m offset and the BP.17.25 $\pm$ 06kyr radiocarbon date along the western;  $2.47 \pm 0.01$  mm/yr and  $3.38 \pm 0.01$  mm/yr were estimated by 42m and 102m offset, BP.16.98 $\pm$ 09kyr and BP.30.17 $\pm$ 05kyr radiocarbon date along the eastern. Therefore, the strike-slip rate of the southern part of the Kangding fault zone since Late Pleistocene should be 5-7 mm/yr. Whereas, the strike-slip rate of Xiaojiang fault has been estimated to be 10 mm/yr (Zhao, 1985)-17 mm/yr (Li, et al., 1985). The faulting intensity of the northern part is stronger than that of the southern part.