A simple estimation method of secondary fault propagation paths at terminations of strike-slip faults and its application

Shigekazu Kusumoto [1], Yoichi Fukuda [2], Shuzo Takemoto [3]

[1] Earth and Planetary Sci., Kyoto Univ., [2] Geophysics, Kyoto Univ., [3] Earth and Planetary Sci., Kyoto Univ

Because secondary faults are created by an activity of a main fault, we can estimate their propagation paths by tracing horizontal deformation at the termination of the main fault. In this study, we investigated the applicability of the dislocation modeling for this purpose.

The result is that the dislocation modeling is useful for the estimation under the following conditions; 1) the fault interaction is weak and 2) the angle between the maximum compressive stress and the echelon faults is larger than 45 degrees. Next, we applied this method for an interpretation of the fault distribution around Osaka Bay basin. The result shows that the secondary faults of the Median Tectonic Line always propagate toward the Arima-Takatsuki Tectonic Line.