

3-D CHARACTERISTICS AND SIGNIFICATION OF TAN-LU FAULT ZONE, SHANDONG, CHINA

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The Tan-lu strike-slip fault zone (TLF) located in eastern China is still active so far and can be compared with San-Andreas Fault in west-coast of US. Recently we have complimented the compilation and interpretation of gravity and magnetic data covering eastern Sino-korea craton with the area of 734,200 Km² on the scale of 1:100,000. The data come from various results based on the survey of scale of 1:10,000 to 1:20,000. The achievements of the studies along the TLF (1400 Km) has been made as following: 1. The 3D TLF has been mapped with the interpretation of a set of upward continuation maps of gravity and magnetic fields, which corresponded to various deep geological levels. 2. A latitudinal structure across the TLF named Qinhuangdao-Dandong fault (QDF) was discovered near 40°30'N. The cross between the TLF and the QDF was the weak zone of lithosphere, as the earthquakes occur frequently. The strongest one was measured 7.3 on the Richter scale in 1975. 3. The fault surface of the TLF was twisted between 40°N and 32°N. The southern section is southeastward, while the northern section is northwestward. The center of twisted plane is nearly vertical, where the strongest earthquake was measured 8.5 on the Richter scale in 1668. The research results show that the regions earthquake occurs frequently along the TLF are located at the cross with other faults or the twisted fault planes occurrence.