



Study of subsurface structures of southwest Taiwan using gravity data

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We have compiled numerous land and marine gravity data in southwest Taiwan. The Bouguer anomaly map shows that an obvious negative area exists in southwest Taiwan, due to the thick sediments with low density covered above the basement. From the residual gravity anomaly map, the positive gravity anomalies match with the location of anticlines and faults well. The SW direction positive gravity anomaly infers that the Chishan fault elongates offshore in the Shoushan. Through filtering analysis of gravity data, we can separate shallow and deep Bouguer gravity anomaly using the relationship between depth and filter wavelength. The depth of basement in the Pingtung basin is about 10km. From the result of 5-10km gravity anomaly, the positive gravity anomaly areas are shown at Chishan and Tianliao. According to the mud volcanoes can be observed in the surface, we infer that this may be related to the diapiric structure.