

Gravity anomaly in the wavelength of 1000 km and subduction dynamics

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Free air gravity anomalies in oceanic area are well revealed by altimetry measurement from satellites. At the trench, very sharp and strong gravity anomalies are observed, which reflect the topographic features. On the other hand EGM96, compiled with long wavelength analysis of satellite orbit and in-situ measurement of gravity at ground, shows gravity anomaly variation entire the subduction zone. Applying band-pass filter to the EGM98 data, we can obtain gravity field related to the subduction dynamics, because effects of short wavelength tomographic variation can be omitted. This let us to reveale the dynamic process in the subduction zones.