

## Bathymetric and crustal features around the petit spot

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We show the seafloor fabric and crustal structure around the petit spot area near 150 E. Swath bathymetric data with geophysical data reveal the topographic expression, crustal structure, and tectonics of the seafloor around the petit spot area. We used the swath bathymetric, gravity and geomagnetic data collected in research cruises on R/V KAIREI, R/V YOKOSUKA, R/V MIRAI, and R/V Hakuho-maru. We also used swath data obtained from the institutions of other countries and the gravity and geomagnetic data from National Geophysical Data Center, National Oceanic and Atmospheric Administration.

The petit spot is situated west of the Nosappu Fracture Zone (NFZ), which was the transform fault between Pacific and Izanagi plates from Late Jurassic to Early Cretaceous (Nakanishi et al., 1989). The age of the seafloor around the petit spot is about 140 Ma. The depth of the seafloor is about 6000 m and comparable with that expected by the plate cooling model of Parsons and Sclater (1977).

Many abyssal hills exist east of the Nosappu Fracture Zone. There are not abyssal hills around the petit spot. The thickness of sedimentary layers around the petit spot is not much different from that of other areas. This implies that the discrepancy of distribution of abyssal hills is not due to variation of thickness of sedimentary layers.

Magnetic anomaly lineations of M14 and M15 are identified around the petit spot area. The strike is the same as other surrounding lineations. This indicated that the seafloor was not deformed by activity of the petit spot.

The free-air gravity anomalies around the petit spot area are negative. The mantle Bouguer anomalies indicate that the thickness of the oceanic crust west of the Nosappu Fracture Zone is slightly thinner than that east of the fracture zone.