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activity monitoring along the Nankai Trough using DONET

The Nankai Trough area is one of important targets to monitor crustal activities due to the potential of future huge earthquakes and tsunamis. To monitor crustal activities, the Dense Oceanfloor Network system for Earthquakes and Tsunamis (DONET) was installed in rupture areas of the Tonankai/Nankai earthquakes. The installed area has generally low seismicity but slow slip events have occurred. Various signals from crustal displacement to slow slip, tsunami and earthquakes were detected.by many types of sensors of DONET to realize observation with broadband and large dynamic range. One of the good examples for the observations is the earthquake of off southeast Mie prefecture in 2016 (M6.5). The focus distributed on the place boundary using high accuracy crustal structure. The aftershocks concentrated far away 10 km north from the main shock and the migration of the aftershocks were also observed. After that, the slow slip events were activated between the trough axis and the main shock. Tsunami and crustal displacement of a few centimeters each were also detected and the fault size was estimated to be 4 km x 8 km using these signals. In this presentation, we introduce the examples of the observations using DONET.

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