

# Relationship between Kuroshio' s meander and crustal deformation around Nankai Trough

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DONET (Dense Oceanfloor Network system for Earthquakes and Tsunamis) has been developed and installed around Nankai Trough, which was motivated by the 2004 Sumatra-Andaman Earthquake. DONET contains pressure gauges as well as seismometers, which is expected to detect crustal deformations around the source regions of megathrust earthquakes. From previous studies (e.g., Ariyoshi et al., 2014 Marine Geophysical Research) show that levelling changes due to slow earthquakes in the preseismic stage of megathrust earthquake are different sense at the DONET points even in the same science node. On the other hand, oceanic fluctuations has so large spatio-temporal scale as to be coherent for all of DONET points. This difference suggests the possibility of extracting crustal deformations component from ocean bottom pressure data by differential of stacking data. However, this operation could not be applied to local-scale fluctuations related to ocean mesoscale eddies and current fluctuations, which affects ocean bottom pressure through water density changes in the water column (from the sea surface to the bottom). In this presentation, we investigate the time series of ocean bottom pressure change from both oceanic fluctuation and crustal deformation especially during Kuroshio' s meander.

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