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Abstract
We recognized the importance of real time monitoring on Earthquakes and Tsunamis Based on lessons learned from 2004 Sumatra Earthquake/Tsunamis and 2011 East Japan Earthquake. We deployed DONET1 and are developing DONET2 as real time monitoring systems which are dense ocean floor networks around the Nankai trough seismogenic zone Southwestern Japan. Total observatories of DONE1 and DONET2 are 51 observatories equipped with multi kinds of sensors such as the accelerometer, broadband seismometer, pressure gauge, difference pressure gauge, hydrophone and thermometer in each observatory.
These systems are indispensable for not only early warning of Earthquakes/ Tsunamis, but also researches on broadband crustal activities around the Nankai trough seismogenic zone for predictions. DONET1 detected offshore tsunamis 15 minutes earlier than onshore stations at the 2011 East Japan earthquake/tsunami.
Furthermore, DONET1/DONET2 will be expected to monitor slow events such as low frequency tremors and slow earthquakes for the prediction researches. Finally, the integration of observations and simulation researches will contribute to estimate of seismic stage changes from the inter-seismic to pre seismic stage.
I will introduce applications of DONET1/DONET2 data and advanced simulation researches.