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Ocean floor network observatories and their applications

In Japan, S-NET and DONET as real time monitoring system on Earthquakes and Tsunamis have deployed off Tohoku and off Nankai Trough. However, DONET and S-NET are different systems, DONET is a cable system with nodes, on the other hand, and S-NET is an in-line cabled system. DONE i.e. the Dense Ocean-floor Network system for Earthquakes and Tsunamis, and S-NET i.e. Seafloor observation Network for Earthquake and Tsunamis along Japan Trench. These systems have been in operation. At April 1st 2016, the earthquake occurred in DONET array, the hypocenter of this earthquake is determined at boundary on Philippine plate. It means that this earthquake as the plate boundary earthquake on Philippine plate occurred for the first time since 1944 Tonankai Earthquake. DONET detected this earthquake precisely. On the other hand, S-NET observed earthquake and tsunamis at November 22nd 2016, then contribute to Tsunami warning. We recognized the importance and significant of ocean floor network. So, MEXT as Japanese government is starting to discuss about the new ocean floor network around western part of Nankai trough. We will introduce Japanese ocean floor networks, observed data and applications.

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