

Cruise Summary

1. Cruise ID/Name of vessel : KY11-09 /N/A/ R/V KAIYO
2. Title of proposal : Construction of Seafloor observation Network for Earthquakes and Tsunamis
Representative of the Science Party [Affiliation] : Yoshiyuki KANEDA/JAMSTEC/JS11-03
Title of proposal : Development of long-term observation using Nankai seafloor boreholes
Representative of the Science Party [Affiliation] : Eiichiro ARAKI/JAMSTEC/JS11-30
3. Chief scientist [Affiliation] : Katsuyoshi KAWAGUCHI/JAMSTEC
4. Science party (List) [Affiliation, assignment etc.] : JAMSTEC Takashi YOKOBIKI, Masanori HOSHINO ,
Jin-Kyu CHOI, Shuhei NISHIDA, Toshinori KIMURA and Kazuya KITADA
NME Tohru KODERA, Morifumi TAKAESU, and Takuya ONODERA
NGK Sho KANEKO
5. Research area : Kumano-nada
6. Cruise period : 2011/07/17(Sun) ~ 2011/08/04(Thur)
(Evading Navigation 07/17-07/22)

Cruise Overview

KY11-09 is collaboration cruise of 7th expedition for DONET (Dense Ocean-floor observatory network for Earthquakes and Tsunamis) sub-sea observatory construction and 1st expedition for Nankai seafloor borehole observatory construction. At the time of the start this expedition, DONET backbone submarine cable system, five science nodes and seventeen observatories and a borehole observatory were already sit on the seafloor. Fifteen ROV diving days were scheduled for observatory construction (include burial hole conditioning, observatory installation, and backfilling burial hole operation), and extension cable laying operation between node and observatory and borehole observatory construction.

The expedition was done during July25 to Aug. 2, 2011, because two typhoons hit Japan middle of July and early August affected the expedition schedule. Nine ROV HPD dives (Dive #1298 to #1306) and three instrument installations was carried out in this duration. There were

- Burial Hole Conditioning: 1 Dives (C-12(#1298))
- Observatory Installation: 3 Dives (C-10(#1304), C-11(#1303), C-12(#1299))
- Cable Laying Operation: 3 Dives (C-10(#1302), C-11(#1301), C-12(#1300))
- Other Operations: 2 Dives (Backfill Operation (A-4(#1306)), Borehole observatory construction (#1305),

Instrument installation:

- July 23 : Recorder x1, Repeater x1
- July 30 : Battery x1

Summary:

In the expedition KY11-09, three new observatories were able to be activated, and the entire DOENT observatory went

into the operation state from August 1st 2011. From the borehole observatory, the data to confirm the condition of borehole observatory equipments was successfully recovered through ROV user interface and several equipment for short term self recording observation was settled on the seafloor beside the C0002G borehole platform.