

MIS007-P01

Room: Convention Hall

Time: May 24 17:15-18:45

## NanTroSEIZE Stage 2: Chikyu drilling and lab activities

Yusuke Kubo<sup>1\*</sup>, Nobuhisa Eguchi<sup>1</sup>, Sean Toczko<sup>1</sup>, Kyoma Takahashi<sup>1</sup>, Yoshinori Sanada<sup>1</sup>,  
Moe Kyaw Thu<sup>1</sup>, Yukari Kido<sup>1</sup>

<sup>1</sup>CDEX

In 2009, D/V Chikyu completed Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) Stage 2, which was composed of two expeditions; Expedition 319 Riser/Riserless Observatory 1 and Expedition 322 Subduction Inputs.

Exp. 319 started on 10th March and continued to 31st August. 27 science party members were divided into two teams for the first and second half of the expedition. Operation of Exp. 319 included riser drilling, analyses of cuttings and core samples, downhole measurements and logging, casing and long-offset, two-ship active seismic experiment at Site C0009 in the Kumano forearc basin, riserless drilling, logging while drilling (LWD), casing, and observatory operations at Site C0010 across a major splay fault, and, LWD data collection at contingency Site C0011 in advance of planned coring operations in the following Exp. 322.

Downhole measurement in the riser hole included in-situ stress and pore pressure measurement with the wireline logging tool, (Schlumberger MDT). These in-situ measurement and stress experiment data are very important to understand physical properties and mechanism of fault zone.

Walkaway VSP was also conducted in the riser hole, in order to reveal detailed subsurface structure. The 16 sets of geophone at ~1300-1600 mbsf and 8 OBSs on the sea floor were deployed, and JAMSTEC R/V Kairei shot along 53 km long line and around 3.5 km circle with 16-array tuned air-gun.

Exp. 322 was a riserless expedition that drilled at two sites in the Shikoku Basin. Science Party of 26 scientists from 8 countries took part in the expedition from 1st September to 10th October. Drilling sites C0011 and C0012 were located on the northwest flank and near the crest of a prominent bathymetric high on the subducting Philippine Sea plate, respectively. At C0012, we drilled through sedimentary strata to reach the underlying basalt at 540 mbsf. Full record from the sea floor to basement provided changes in characteristics of incoming material prior to their arrival at the subduction front.

Keywords: Chikyu, IODP, NanTroSEIZE, Riser drilling