

Discussion toward the final challenge of the Nankai Trough Seismogenic Zone Experiment

*Kyuichi Kanagawa¹, Gregory F Moore², Masataka Kinoshita³, Keir Becker⁴

1. Graduate School of Science, Chiba University, 2. University of Hawaii at Manoa, 3. Earthquake Research Institute, University of Tokyo, 4. University of Miami

The Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) is a multidisciplinary investigation of fault mechanics and seismogenesis along the megathrust at the Nankai Trough subduction zone, and includes reflection and refraction seismic imaging, direct sampling by drilling, in situ measurements, and long-term monitoring in conjunction with laboratory and numerical modeling studies. During the past 11 IODP expeditions off Kii Peninsula since 2007, 15 sites have been drilled by D/V "Chikyu" down to depths from 100s of meters to more than 3000 meters below seafloor, where the inner and outer wedge of the Nankai margin has been sampled extensively, and two state-of-the-art real-time downhole observatories are now in operation. NanTroSEIZE is now at the final stage with only one more expedition planned for resuming riser drilling toward the megathrust at ~5200 meters below seafloor starting from October 2018. Here we will discuss on this final challenge, i.e., drilling plan including mud weight, logging tool options, cuttings and core analyses, and so on.

Keywords: Nankai Trough, Seismogenic Zone, IODP