Oral | Symbol S (Solid Earth Sciences) | S-CG Complex & General

[S-CG67_2AM2]Ocean Floor Geoscience

Convener:*Kyoko Okino(Ocean Research Institute, University of Tokyo), Keiichi Tadokoro(Research Center for Seismology, Volcanology and Earthquake and Volcano Research Center, Nagoya University), Osamu Ishizuka(Institute of Geoscience, Geological Survey of Japan/AIST), Tomohiro Toki(Faculty of Science, University of the Ryukyus), Narumi Takahashi(Earthquake and Tsunami Research Project for Disaster Prevention, Japan Agency for Marine-Earth Science and Technology), Chair:Tomohiro Toki(Faculty of Science, University of the Ryukyus), Kyoko Okino(Ocean Research Institute, University of Tokyo)

Fri. May 2, 2014 11:00 AM - 12:45 PM 418 (4F)

Ocean Floor Geoscience session covers a broad range of research on seafloor such as mid-ocean ridge process, subduction dynamics, arc magmatism, hot spot and LIPs, crustal movement and structure etc. Every field of researches and every approaches are welcomed. The session aims to encourage discussion among scientists from different study fields and to integrate our understanding of ocean floor.

12:00 PM - 12:15 PM

[SCG67-P06_PG]Three year observations of ocean infragravity waves by broadband seismometers and pressure gauges of Japanese seafloor n

3-min talk in an oral session

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Keywords:Infragravity wave, Nankai Trough, DONET

Ocean infragravity (IG) waves are sea-surface gravity waves with periods of several minutes and wavelengths up to tens of kilometers. We used a slant-stack technique to detect IG waves from the three-year period records (2011-2013) of the vertical component broadband seismograms and pressure gauges of the seafloor network deployed in the Nankai Trough region (DONET). IG signals show good match in waveform between the seafloor displacement and pressure with propagation speeds consistent with the seafloor depths of 2000 m. The signal intensities are strongly azimuth-dependent. Except for the days with extreme weather, waves incoming from the SE direction (from the deep ocean to the coast across the Nankai Trough) are by far dominant. The incoming direction sharply splits into two, SSE and ESE. Waves from the deeper ocean in the SSE direction are more dominated in longer-period components than those from the shallower ocean in the ESE direction. Amplitudes of these waves clearly show a seasonal variation, high in winter and low in summer. The effect of typhoon is to generate IG waves incoming from the source direction and those incoming from the NE-ENE direction through the corridor between the coast and the Nankai trough. The latter is often stronger than the former.

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