Cruise summary

1． Cruise Information：

（1） Cruise number, Ship name: KR08-09, R/V Kairei

（2） Title of the cruise: 2008FY “High resolution seismic imaging in the Izu-Bonin intra-oceanic arc”

（3） Chief Scientist [Affiliation]: Shuichi KODAIRA [JAMSTEC]

（4） Representative of Science Party [Affiliation]:

Yoshio FUKAO [JAMSTEC],

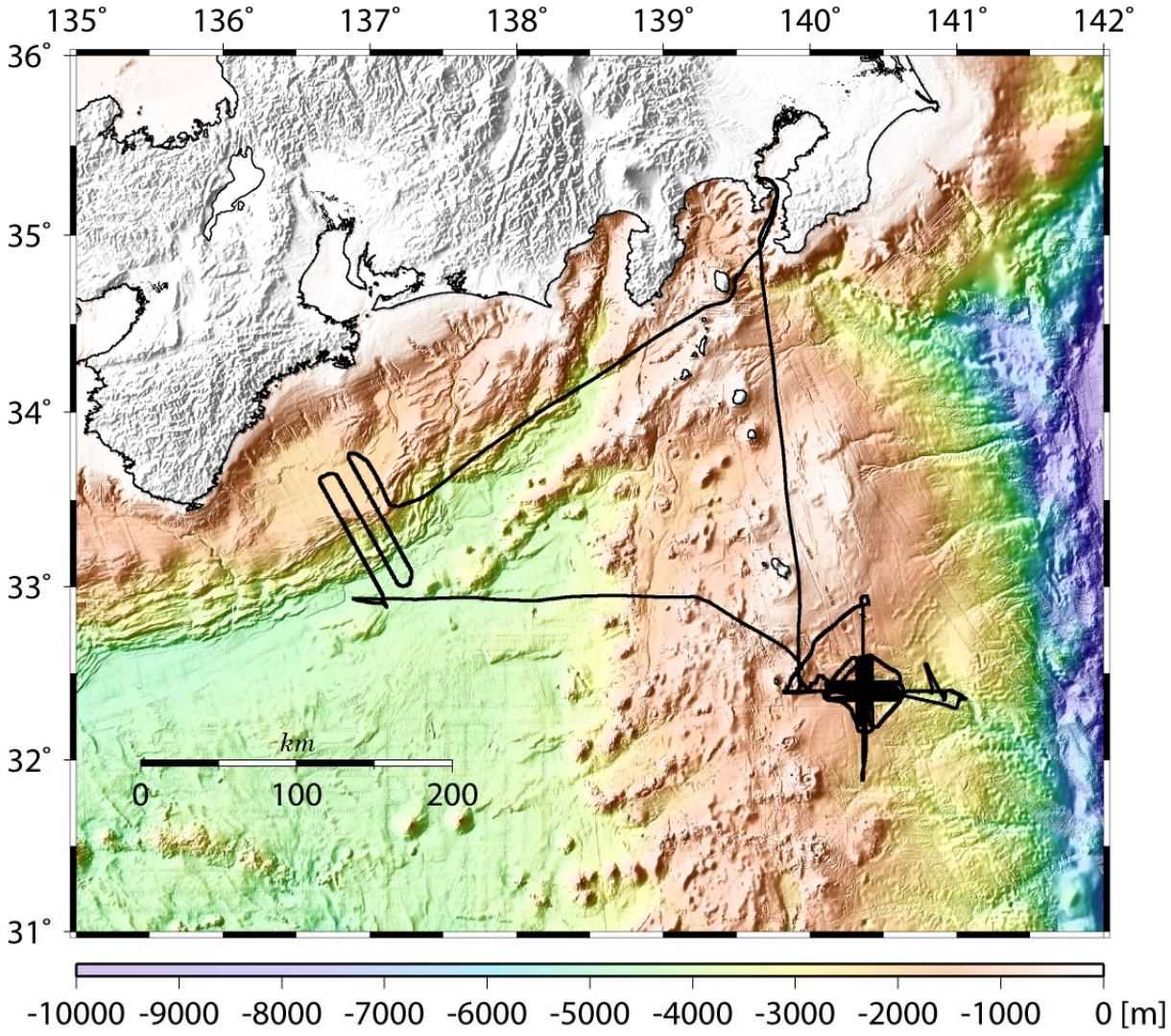
（5） Title of proposal:

Crustal growth of the Izu-Ogasawara oceanic island arc –Seismicity study for IODP Project IBM-,

（6） Cruise period, Port call: 2008/7/28-8/12, JAMSTEC to JAMSTEC

（7） Research Area: Izu-Ogasawara, Kumano basin

（8） Research Map:



２．Overview of　Observation：

((１）Objectives：

IFREE have intensively conducted seismic surveys in the Izu-Ogasawara area to understand crustal evolution process in an intra-oceanic arcs since 2004. An intra-oceanic arc such as the IBM arc provides an excellent opportunity to examine the process of evolution of new crust, because an intra-oceanic island arc is less affected by pre-existing continental crust than one at the edge of a continent. Previous petrological studies have proposed that post-Archean growth of andesitic continental crust was mainly accomplished by accretion of island arc crust onto continental crust (the andesitic model). Understanding the processes of generation of new island arc crust is, therefore, fundamental to the examination of the processes by which continental crust develops on the present-day Earth. A main objectives of this cruise are to obtain high resolution seismic images around a proposed drill site of the IODP Project IBM by seismic refraction and reflection data. Moreover, we also acquired additional MCS for the IODP NantroSIZE in the Kumano basin.

（２）List of observation instruments：

１）Multi-channel seismic (MCS) reflection system

MCS survey have been conducted in the Kumano basin and Izu-Ogasawara areas using a tuned airgun array of 7800 cu. in. and a 444-ch hydrophone streamer with 12.5-m group interval.

２）Ocean bottom seismometer（OBS）

In order to obtain high resolution seismic velocity image, an ocean bottom seismometer (OBS) has been deployed with 1 km interval at the proposed IODP site.

３）Bathymetry, magnetic and gravity observation

During the cruise, bathymetry, magnetic and gravity data have been recorded continuously by SEABEAM2112.004, three component magnetometer and gravity meter, respectively.

４）XBT

We have conducted XBT to correct the sonic speed for the bathymetry survey.