

Cruise summary of MR16-E01 cruise

Cruise information

Cruise number	MR16-E01
Name of the cruise	R/V MIRAI
Chief scientist	Takafumi Kasaya (CEAT, JAMSTEC)
Representative of the Science Party	Eiichi Kikawa (JAMSTEC)
Title of the cruise	Development of the geophysical exploration method using SP and DC resistivity method on the hydrothermal deposit in the Izena hole
Cruise period	23 Feb 2016 – 11 March 2016
Ports of call	Shimizu port – Shimizu port
Research Area	Izena hole area (Fig.1)

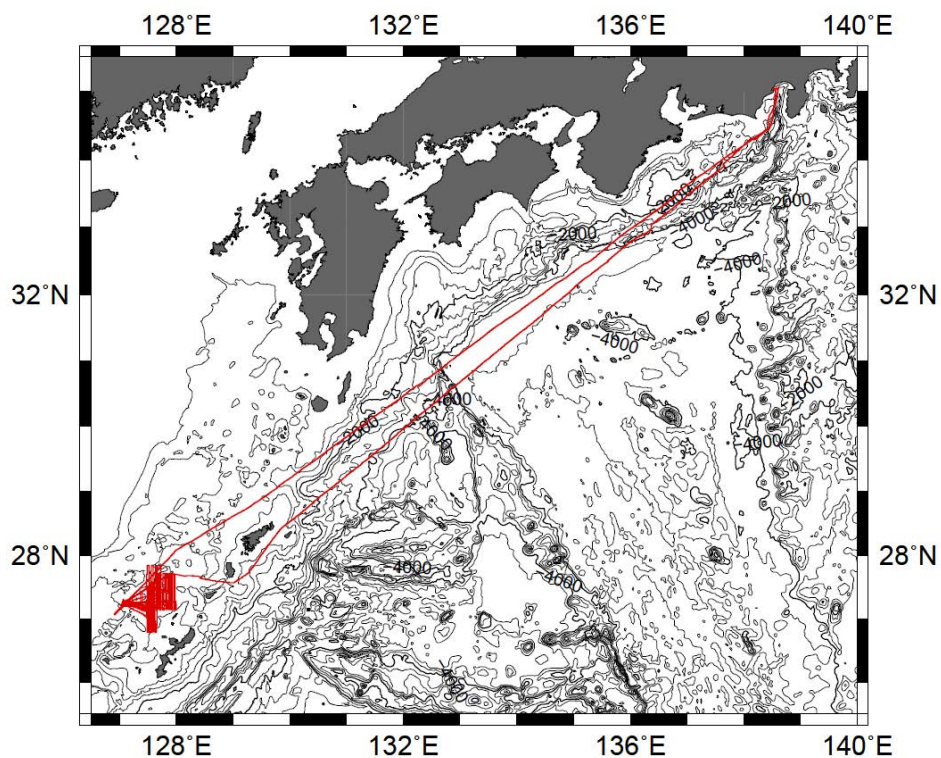


Fig.1 Ship track of this cruise.

Cruise proposal

” Development of the geophysical exploration method using SP and DC resistivity method on the hydrothermal deposit in the Izena hole”

In recent, a concern with the submarine massive sulfides (SMS) has been growing. However, few exploration techniques were developed to evaluate the thickness of SMS and to find the buried SMS. It is also very important for the study of the origin and formation of SMS to detect the subsurface hydrothermal circulation system.

Geophysical exploration method based on the electromagnetism is very sensitive to the conductive fluid and mineral resources. Therefore, we have carried out the DC resistivity survey around the Izena hole field. The Izena hole field is known as one of the promising hydrothermal deposit. On this cruise, we carried out the towing on six towed DC resistivity survey lines, two controlled source shooting to the six OBEs, three SP survey lines and two sonar deep-tow survey lines in the Izena hole geothermal area. After finishing the all towing survey, we was able to recover all OBEs.