The OJP array: seismological and electromagnetic observation on seafloor and islands in the Ontong Java Plateau

*末次 大輔[1]、塩原 肇[2]、杉岡 裕子[4]、多田 訓子[1]、伊藤 亜妃[1]、一瀬 建日[2]、馬場 聖至[2]、市原 寛[3]、太田 豊宣[5]、石原 靖[1]、田中 聡[1]、大林 政行[1]、利根川 貴志[1]、吉光 淳子[1]、小林 拓史[4]、歌田 久司[2]
*Daisuke Suetsugu[1], Hajime Shiobara[2], Hiroko Sugioka[4], Noriko Tada[1], Aki Ito[1], Takehi Isse[2], Kiyoshi Baba[2], Hiroshi Ichihara[3], Toyonobu Ota[5], Yasushi Ishihara[1], Satoru Tanaka[1], Masayuki Obayashi[1], Takashi Tonegawa[1], Junko Yoshimitsu[1], Takumi Kobayashi[4], Hisashi Utada[2]

1. 海洋研究開発機構　地球深部ダイナミクス研究分野、2. 東京大学　地震研究所、3. 名古屋大学　地震火山研究センター、4. 神戸大学大学院　理学研究科、5. 有限会社　テラテクニカ
1. Department of Deep Earth Structure and Dynamics Research, Japan Agency for Marine-Earth Science and Technology, 2. Earthquake Research Institute, the University of Tokyo, 3. Earthquake and Volcano Research Center Graduate School of Environmental Studies, Nagoya University, 4. Graduate School of Science, Kobe University, 5. Tierra Tecnica, Ltd.

We conducted geophysical observations on the Ontong Java Plateau (OJP) and its vicinity from late 2014 to early 2017 to determine the underlying crust and upper mantle structure beneath the OJP. The OJP was emplaced in the present South Pacific region at 120 and 90 Ma by massive volcanism, but the causes of this volcanism are still debated. Previous studies have suggested that seismic velocity beneath the OJP is anomalously slow, thus could represent thermal or chemical remnants of the volcanism. However, the seismic resolution of the slow anomalies is poor due to lack of seafloor observations. The observation network named “the OJP array” is composed of seafloor and island stations. The seafloor stations have broadband ocean bottom seismographs and ocean bottom electromagnetometers. The island stations have broadband seismographs. The OJP array is designed to obtain seismic and electrical conductivity structures of the mantle beneath the OJP with better resolution than that of previous studies. Joint analysis and interpretation of seismological and electromagnetic data should provide tight constraints to thermal and chemical structures and clarify the cause of OJP emplacement.

キーワード：オントンジャワ海台、巨大火成岩区、広帯域海底地震計、海底電位差磁力計
Keywords: Ontong Java Plateau, Large Igneous Provinces, BBOBS, OBEM

