

## Crustal structure of the Ogasawara Plateau: seismic reflection study

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The Ogasawara Plateau is a western extension of the Marcus-Wake seamount chain in the western Pacific. It is composed of a round shape plateau in the western part and linear chain of seamounts in the eastern part. The Ogasawara Plateau is located at the convergent plate margin (Izu-Ogasawara Arc at the Ogasawara trench). Whether the plateau has been subducted or accreting is controversial. According to Smoot (1983) and Nagaoka et al. (1989), the plateau is obducted and composed of multiple detached seamounts. To the contrary, Miura et.al. (2004) concluded that the plateau has been subducted based on the gravity and multi-channel seismic reflection (MCS) data. Hahajima Seamount rests on the forearc slope of Izu-Ogasawara Trench. Since serpentinized peridotites, gabbros, volcanics including boninites, and limestones are recovered from the seamount (e.g., Ishii et al., 2001), some authors argue that the seamount is not a simple serpentinite seamount typical found in the Izu-Mariana forearc (Ishiwatari et al., 2005; Fujioka et al., 2005). Japan Coast Guard performed a wide-angle seismic refraction/reflection experiment under the Continental Shelf Surveys Project during September of 2005 around the Ogasawara Plateau region. We will present the MCS survey result in this report. The specification of the MSC survey is as follows: the tuned airgun array with a total capacity of 8,040 cubic inch, which was consisted of 36 airguns with a capacity of 65-600 cubic inch each, was shot at 50m interval. The 480-channel hydrophone streamer was towed during the airgun shooting. The characteristics of the MCS profiles are as follows: at Higashi seamount, one of the major peaks of the Ogasawara Plateau, we can see thick limestone layer (1.0 sec t.w.t.) and NW-SE trend normal faults. At Hahajima seamount we can see multiple faults that can be interpreted as thrusts. At its basement on the forearc slope, we can also see limestone layers originated from Nishi seamount, suggesting that parts of the Ogasawara Plateau are now accreting to the Izu-Ogasawara forearc.