

Crustal architecture of the Indian Ocean Sector of the Antarctic continent: summary of the current phase IX and towards the next phase X (JARE 65-)

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Three projects (AP0915, AP0916, AP0936) of the Japanese Antarctic Research Expedition (JARE) have investigated the basement geology from 10°E to 55°E (the Indian Ocean Sector) of the Antarctic continent during the current phase IX; three seasons (JARE 58, 60, 63) in the Lützow-Holm, the Western Rayner, the Rayner and the Napier Complexes, and one season (JARE 61) in the Sør Rondane Mountains. The projects members are now working on the rock specimen collected during the field work, and several papers have already been published (Dunkley et al., 2020; Baba et al., 2021a, 2021b; Higashino and Kawakami, 2022). This part of the Antarctic continent comprises of deep crustal high-grade metamorphic and plutonic rocks that recorded the geologic history from early Archaean through Proterozoic to earliest Paleozoic over 3 billion years. For these perspectives, the area is considered by many geologists as an ideal field for investigating long Earth history and deep crustal processes. Following the temporal geologic summary by Shiraishi et al. (2008), significant scientific advance has been made by the JARE's geology teams (eg., Baba et al., 2019, 2021a, 2021b; Dunkley et al., 2020; Higashino et al., 2019a, 2019b; Higashino and Kawakami, 2022; Hiroi et al., 2019, Hokada et al., 2022; Horie et al., 2016; Kawakami et al., 2016, 2017; Mori and Ikeda, 2018; Satish-Kumar et al., 2021; Suzuki and Kawakami, 2019; Takahashi et al., 2018; Takamura et al., 2018, 2020; Takehara et al., 2020; Tsunogae et al., 2016; Tsubokawa et al., 2017; and referenecs therein). This presentation summarizes the current understanding of the crustal architecture of this part of Antarctica and the plan for the next phase of geology programs (phase-X; JARE 65-).

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