

Mantle heterogeneity across segment at southern segment of Central Indian Ridge

*Hiroshi Sato¹, Shiki Machida², Ryoko Senda²

1. School of Business Administration, Senshu University, 2. JAMSTEC

Recent petrological and geochemical investigations of MORB at the southern segments of Central Indian Ridge (CIR) reveal the heterogeneous distributions of MORB-source mantle (Sato et al., 2015). Sato et al. (2015) concluded that MORB from off-ridge area at the CIR-S1 segment are depleted trace element compositions than typical MORB. Furthermore, depletions of trace element geochemistry of off-ridge MORB from CIR-S1 segment decrease toward present spreading ridge. Because off-ridge MORB was recovered from several dredge sites parallel to the flow line, these distributions might indicate spatial distributions of mantle heterogeneity beneath CIR-S1 segment. Newly analyzed isotope compositions suggest that MORB depleted in trace element is enriched in radiogenic Sr and Nd. Machida et al. (2014) proposed that "Radiogenic Depleted component (RD)" contributes to the genesis of basalts from CIR-15 segment at 20 degree south and CIR-18 segment at 16 degree south. We suggest that RD component widely spreads along CIR.

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