Neodymium isotopic composition of surface layer of ferromanganese crusts collected from two seamounts located at the northwest Pacific

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We reported neodymium (Nd) isotopic composition of the surface layers of ferromanganese crust samples from the Takuyo-Daigo Seamount (22°20´N-23°40´N, 152°40´E-154°00´E) located at the northwest Pacific Ocean [1]. Since the samples were collected by remotely operated vehicles (ROVs) equipped with conductivity, temperature, and depth profilers (CTDs), we were able to know the real sampling depths, which could not be known by a traditional dredging method. By comparing the surface layer data with the ambient seawater Nd isotopic data, a suitability of those samples for paleoceanographic study was tested.

Here, we newly report the surface layers Nd isotopic data of ferromanganese crust samples from the Takuyo-Daisan Seamount (33°50´N-34°30´N, 144°05´E-144°45´E), another location at the same oceanic region, and compare with the previously reported data.

The depth profiles of two seamounts are similar at depths range of 1500 m to 4500 m. Around 5000 m depths, the Takuyo-Daisan datum shows a slightly higher value than that at Takuyo-Daigo Seamount, which might be indicative of an influence of local Nd sources. The vertical profile at Takuyo-Daigo Seamount was identical with that of seawater collected from a closely located station, CTD01 (21°59´N, 153°56´E) [2]. On the other hand, the data at Takuyo-Daisan Seamount are slightly higher than those of seawater collected from a closest station LM6/11 (34°10'N, 142°00'E) [3]. This discrepancy might be due to the different time range of Nd isotopic signal recorded in seawater (present) and surface layer of ferromanganese crust (~0.2Ma).

[1] Amakawa et al. (2017) *GJ*, **51**, e1-e7. [2] Amakawa et al. (2018) *Proc. 28th Int. Ocean&Polar Eng. Conf.*, ISOPE-2018, 81-85. [3] Amakawa et al. (2004) *GCA*, **68**, 715-727.