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先小御岳火山の微量元素及び Sr-Nd 同位体組成
Trace elements and Sr-Nd isotopic compositions of the pre-Komitake volcano

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The chemical charecteristics of magmas from pre-Komitake Volcano, which is a buried and old volcanic body benarth the northeastern ?ank of Mt. Fuji, show the differences to those of Mt. Fuji (Yoshimoto *et al*., 2010). According to Yoshimoto *et al*. (2010), incompatible elements of former magmas increase with increasing SiO2, whereas those of later magmas increase at nearly constant SiO_2. They emphasized that those changes of the magma chemistry at this area from 250 ka to recent may have occurred due to a change in regional tectonics around 150 ka, although this remains unproven. To elucidate this problem, geochemical study for the magmas from pre-Komitake is essential. Therefore, we analyzed trace element and Sr-Nd isotopic compositions of those magmas.The samples are selected from the entire group, which are classified by lithology and chemistry (Group 1-3, Yoshimoto *et al*., 2010), and from 188-412m (core ERI-FJ2) and 426-624m (core ERI-FJ3) in depth. Trace elements are analyzed using by quadrupole inductively coupled plasma mass spectrometer following by the method of Chang *et al*. (2003). Sr-Nd isotopic compositions are measured by thermal ionization mass spectrometer following by the procedure of Shibata *et al*. (2007) and Yoshikawa and Shibata (2003). The enrichments of LILE's, Pb and Sr, which are general characteristics of island arc magma (eg. Wood et al., 1979), are observed from the analyzed samples in the primitive mantle normalized multi-element diagram. High Sr/Y ratios (70 in max.) and the weak positive Eu anomalies ($Eu^* = [Eu]_N/([Sm]_N/2+[Gd]_N/2$; N means condrite normalized value) are also found from several samples. The Sr and Nd isotope ratios show the variations from 0.703320-0.703476, and 0.512885-0.513087, respectively.

The Sr-Nd isotopic compositions of pre-Komitake volcano show a similar range of Mt. Fuji presented by Nagai *et al*. (2004), indicating that those magmas can be generated from the same source materials. Although the variations of Sr isotope compositions are small, significant differences are found. Most of the samples show similar Nd isotope ratios, whereas few samples show lower significant differences. These observations can be explained by 1) difference of slab derived fluid and 2) different degrees of crustal contaminations. It is unlikely that Nd isotope ratio of slab derived fluid is changed, because it is difficult keeping isotopic heterogeneity during the deep processes. Crustal rocks, which have similar Sr-Nd isotope ratios of Tanzawa tonalities (Kawate, 1996), are the candidate producing the whole isotopic variation of pre-Komitake volcano. Therefore, we prefer the contributions of crustal materials to explain the Sr-Ns isotopic variations of pre-Komitake volcano. The Eu∗shows positive correlation with Al2O3. This may indicate the plagioclase accumulation contributed the magma genesis of pre-Komitake volcano, and cause the elevation of Sr/Y ratios.

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