

東北日本只見川古期花崗岩類の全岩化学組成および希土類組成 Whole-rock chemical compositions and rare earth element compositions of the Paleogene Tadamigawa granitic rocks, northea

谷岡 裕大^{1*}, 壺井 基裕²

TANIOKA, Yudai^{1*}, TSUBOI, Motohiro²

¹ 関西学院大学大学院理工学研究科, ² 関西学院大学理工学部化学科

¹Sci. Tech., Kwansei Gakuin Univ., ²Sci. Tech., Kwansei Gakuin Univ.

The Paleogene Tadamigawa granitic rocks are located at the border between Fukushima and Niigata prefectures, northeastern Japan. The granite is divided into two rock types, the Tadamigawa granite and the Hinoematagawa granite. The Tadamigawa granite is coarse-grained biotite granite and it is characterized by the phenocryst of K-feldspar. The Hinoematagawa granite is medium-grained biotite-hornblend granite, and it is intruded by the Tadamigawa granite. In this study, we have analyzed whole-rock chemical compositions including REE of the Tadamigawa granitic rocks, and discuss the petrogenesis of the pluton. 7 samples of the Hinoematagawa granite and 18 samples of the Tadamigawa granite were analyzed for major-minor chemical compositions and REE compositions by XRF and ICP-MS, respectively. SiO₂ contents of the Hinoematagawa granite and the Tadamigawa granite range from 59.6 to 69.4 wt.% and from 62.8 to 74.6 wt.%, respectively. The Tadamigawa granite and the Hinoematagawa granite may be generated from the same magma origin because they show similar trend on the Harker's diagram. The Tadamigawa granitic rocks are plotted within the field of non-alkaline rock on the graph of SiO₂-(Na₂O+K₂O)(Miyashiro, 1978). It is also assumed that the pluton belongs to calc-alkaline rock series because SiO₂ contents increase with increasing FeO/MgO ratio. Additionally, almost all samples were classified into VAG (Volcanic Arc Granite) on the Rb-(Nb+Y) diagram(Pearce et al., 1984). Therefore, the Tadamigawa granitic rocks magma might be originated from the partial melting of the basaltic crust. REE abundance patterns of all samples normalized by chondrite show high-LREE pattern. Many samples show negative Eu anomaly, and the value of Eu anomaly increase with decreasing anorthite content calculated by CIPW norm. The value of Eu anomaly might be concerned with the crystallization differentiation of the original magma. The degree of Eu anomaly of the Tadamigawa granite is higher than that of the Hinoematagawa granite. Whole-rock chemical composition analyses suggest that the Tadamigawa granite is more differentiated than the Hinoematagawa granite.

References

Miyashiro, A., 1978, *Contrib. Mineral. Petrol.*, **66**, 91-104.

Pearce, J. A. et al., 1984, *Jour. Petrol.*, **25**, 956-983.

キーワード: 只見川, 檜枝岐, 花崗岩, 希土類元素

Keywords: Tadamigawa, Hinoemata, Granite, rare earth elements (REE)