

REE, Nd, Sr and Eu isotope geochemistry of anorthosite at Sancheong area, Korea

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Anorthosite is a gabbroic igneous rock containing plagioclase as the main constituent mineral and less than 10% of colored minerals such as pyroxene, olivine or amphibole. Most of the anorthosite on the earth is distributed in the Archean formation. The terrestrial anorthosite is compared to lunar anorthosite which is one of the lunar constituent rocks. One of the most striking geochemical properties of the anorthosite is that the Eu positive anomaly associated with plagioclase is significantly developed. Currently, most of the anorthosite that is widely distributed in the world are not single intrusive rock but rather a complex composed of several types of intrusive rocks.

Anorthosite in Hadong-Sancheong area in the Korean Peninsula also is a complex of massif-type. Its formation age is 1.7~1.86 Ga [1, 2]. However, there are few of the data related trace and rare earth elements from the Hadong-Sancheong anorthosite in the Korean Peninsula. Recently, Lee & Tanaka[3] developed a new method for determining Eu isotopic ratio using MC-ICP-MS. In this paper, we report a geochemical characteristic of rare earth element distribution pattern and Sr-Nd-Eu isotope system. In particular, we discuss the geochemical implication of Eu stable isotope fractionation and Eu anomaly in the chondrite-normalized REE pattern.

[1] Kwon S-T. & Jeong J-G. (1990) *Jour. Geol. Soc. Korea*, v. 26, 341-349. [2] Lee et al. (2014) *Terra Nova*, v. 26, 408-416. [3] Lee S-G. (2019) *Spectrochim. Acta Part B*, 156, 42-50.