

SCG067-P06

Room:Convention Hall

Time:May 26 10:30-13:00

Rare earth element composition of the Sori granodioritic body, Ashio Mountains

Yoshinobu Kawano^{1*}

¹Rissho University

The Sori body indicating biotite K-Ar and Ar-Ar ages of 86 to 93 Ma consists of homogeneous biotite granodiorite. Initial Sr isotopic ratios calculated using 98 Ma for the body range from 0.7063 to 0.7074. The body is divided into three facies (central, transitional and marginal) based on the initial ratios. The transitional facies of the body suggests the isochron ages of 98+/-11 Ma.

The central facies indicating lower initial Sr isotopic ratios has slightly higher Rb/Sr, Rb/Ba and Rb/Zr ratios than those of the marginal facies. The marginal facies has lower Rb content and higher initial Sr isotopic ratios than the central facies. Then, it is suggested that the Sori body may have been formed by magma mixing.

Ce/U and Th/U ratios are thought to be oxidation condition and if these ratios rise with redox state. Ce/U and Th/U ratios are thought to depend on redox condition, high ratio indicates oxidation state. The central and transitional facies have low Ce/U and Th/U ratios, whereas the marginal facies has slightly higher ratios.

In chondrite normalized REE patterns, the central facies indicates wider composition of the light rare earth element than other two facies. In heavy rare earth elements, positive tetrad effects are remarkable in the central facies, whereas they are unremarkable in other two facies. It can be considered that the redox condition and the source material are different between the central and marginal facies. This harmonizes to result of review from the initial Sr isotopic compositions.

Keywords: Sori body, Granodiorite, Rare earth element