

## REE Tetrad Effect of the Granite in Pocheon Area, Korea

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The granite in Pocheon area, Korea has SiO<sub>2</sub> of 72.5 ~ 76.4 wt.% and is mildly peraluminous. All samples are belong to the high-K calc-alkaline magma series in the K<sub>2</sub>O vs. SiO<sub>2</sub> variation diagram. The chondrite-normalized REE patterns of the granite show tetrad effect and strongly negative Eu anomalies. Monecke et al. (2002) proposed the method for calculating the tetrad sizes in geological materials. Accordingly, the T<sub>1</sub> values of all samples are higher than 0.1 which is considered showing the tetrad effect. However, the values of T<sub>3</sub> and T<sub>4</sub> range from 0.03 to 0.20 and from 0.02 to 0.22, respectively. The Rb-Sr whole rock age is 158±13 Ma with (<sup>87</sup>Sr/<sup>86</sup>Sr)<sub>i</sub> = 0.7133 ± 0.0029 (2σ SE). The initial <sup>143</sup>Nd/<sup>144</sup>Nd ratio is 0.51143 ± 0.00065 (2σ SE). Thus, the continental crust can be suggested for probable source region of the granite in Pocheon area. The Nd model ages (T<sub>DM1</sub>) of two samples show very old due to the REE tetrad effect. The two-stage model ages (T<sub>DM2</sub>) of the granite ranging from 2,338 to 2,470 Ma indicate that the granite was formed by remelting of Paleoproterozoic mantle-derived crustal materials. However, we need further study to understand REE mobility and the relationship between the REE tetrad pattern formation processes and extraordinary Nd model age.