

## Fission track and K-Ar dating on some granitic rocks of the Hida Mountain Range, Central Japan

# Ryuji Yamada [1]

[1] Nagaoka Institute of Snow and Ice Studies, NIED

Fission track (FT) zircon ages for eight samples, and K-Ar ages using biotite and hornblende for two samples were determined on the four granitic rock bodies and a dyke in the Hida Mountain Range, Central Japan. FT zircon ages were determined  $< 3$  Ma for six samples, and  $> 40$  Ma for two samples. K-Ar ages were always older than the FT ages, reflecting the difference in closure temperature. Based on the radiometric age data, the emplacement order of the rock bodies could be reconstructed as follows: The Kitamatadani Tonalite intruded at  $\sim 90$  Ma, the Tsurugidake Granite at  $\sim 60$ -70 Ma, the Okukurobe Granite prior to  $\sim 60$  Ma, the Kurobegawa Granite (KG) prior to  $\sim 7$  Ma, and a dyke intruded into KG at  $\sim 1$  Ma.

Fission track (FT) zircon ages for eight samples, and K-Ar ages using biotite and hornblende for two samples were determined on the four granitic rock bodies and a dyke in the Hida Mountain Range, Central Japan. FT zircon ages were determined  $< 3$  Ma for six samples, and  $> 40$  Ma for two samples. K-Ar ages were always older than the FT ages, reflecting the difference in closure temperature. For a sample of the Okukurobe Granite, the evidence of secondary thermal overprinting was found according to the statistical test for the single grain FT ages and the FT length distribution aspect. The apparent FT age of  $44 \pm 5$  Ma (2 sigma level) should not correspond to any geological events. On the basis of the radiometric age data, the emplacement order of the rock bodies could be reconstructed as follows: The Kitamatadani Tonalite intruded at  $\sim 90$  Ma, the Tsurugidake Granite at  $\sim 60$ -70 Ma, the Okukurobe Granite prior to  $\sim 60$  Ma, the Kurobegawa Granite (KG) prior to  $\sim 7$  Ma, and a dyke intruded into KG at  $\sim 1$  Ma. Because a simple cooling process is not applicable to the rock bodies in this region, it is necessary to analyze systematically the cooling histories of relatively small parts of each rock body prior to the thermo-tectonic history analysis.