

SHRIMP U-Pb ages of the Ryoke mafic rocks

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U-Pb zircon ages of the Ryoke mafic rocks from Mikawa, Kinki and Setouchi districts were determined using SHRIMP II at RSES, ANU.

The Ryoke mafic rocks are exposed as small blocks or enclaves sporadically, but have been studied well since old days mainly geochemically from the viewpoint of source rocks of the Cretaceous Ryoke granitoids. They have been considered to be prior to the large-scaled granitic magmatism. The recent documentation of 180-220Ma isotopic ages from some of those mafic rocks drew attention but not yet confirmed. The Ryoke mafic rocks are classified into two occurrence types; magma-mingling type and plutonic type.

(Sample No.) (Types)	(Ages) (Localities)	(Rocks)		
99120101A	71.5 +/- 1.1Ma	Andesitic enclave	Magma-mingling	Toyone, Aichi
99120203	72.4 +/- 1.2Ma	Gabbro	Plutonic	Tsukude, Aichi
00021701A	75.5 +/- 0.8Ma	Basaltic dike	Magma-mingling	Hatsuse, Nara
00021401A	82.0 +/- 0.9Ma	Gabbro	Plutonic	Ikoma, Osaka
00021504	83.2 +/- 1.3Ma	Anorthosite		
Plutonic	Ikoma, Osaka			
01012103	86.0 +/- 1.2Ma	Gabbro	Plutonic	Awashima

They gave the SHRIMP U-Pb ages of 71-86Ma. The zircons crystallized from mafic magma have needle-like shape without concentric zoning pattern in CL images, which are quite different from zircons in granites. It helps us to obtain the crystallization ages of mafic rocks. The zircons from plutonic type rock give a single cluster without an inheritance, while the magma-mingling type rocks include slightly older zircons with similar ages to the Ryoke granitoids nearby.

The two things should be noted; (1) The SHRIMP U-Pb ages of the Ryoke mafic rocks seem to have eastward younging trend in the studied area from eastern Setouchi to Mikawa district, independently of rock types, and (2) They seem to trace the trend of magmatic ages of the San-yo granitoids nearby given by SHRIMP U-Pb, CHIME, and Rb-Sr whole rock isochron so far documented, rather than those of the Ryoke granitoids.