

## SHRIMP geochronology for the granitoids in the Northern zone of Maizuru Terrane: their geological significance in East Asia.

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Geochronology of Pre-Cretaceous igneous rocks is a key for terrane analysis and reconstruction of the rearrangement history of continental crust in East Asia. In this study, we provide the zircon SHRIMP U-Pb ages of granitoids in the Maizuru Terrane, Inner zone of Southwest Japan.

The Maizuru Terrane has been thought to be formed during late Paleozoic to early Mesozoic time, which are divided into the Northern zone, Middle zone and Southern zone by the lithology. The Northern zone consists mainly of deformed granitoids and metamorphic rocks occurring as fault bounded Western body and Eastern body. Their petrologic and geochemical features show an affinity of a mature continental crust in contrast to the Southern zone to be an oceanic and immature island arc crust.

The results of zircon SHRIMP U-Pb analyses show the intrusion ages of  $424 \pm 16$  Ma and  $405 \pm 10$  Ma (Siluro-Devonian) for the granite in the Western body, and  $249 \pm 10$  Ma and  $243 \pm 19$  Ma (Early Triassic) for the tonalite in the Eastern body. The granite from the Western body also show inherited ages of zircon around 580 Ma and 765 Ma, and that of monazite around 475-460 Ma by U-Th-total Pb EPMA dating.

The Siluro-Devonian granitoids in the South Kitakami Terrane in Northeast Japan, Kurosegawa Belt in Southwest Japan and the Khanka massif of southern Primorye, Russia, are accompanied by a characteristic Middle to Upper Permian clastic formations. Tazawa (2004) concluded that those Permian strata were formed at the eastern margin of Sino - Korean craton on the basis of the paleobiogeography for a specific brachiopod fauna. The Maizuru Terrane also includes the Siluro-Devonian granitoids and the Permian strata yielding the specific brachiopod fauna (Middle to Upper Permian Maizuru Group: Tazawa, 2006). These data indicates that the Maizuru Terrane can be correlative with those Paleozoic Terranes mentioned above. It is worth noting that the geological continuity between southern Primorye and the Maizuru Terrane has been pointed out (Kojima et al., 2000; Ishiwatari and Tsujimori, 2003).

On the other hand, the Early Triassic granitoids have been reported from the South Kitakami (Suzuki and Adachi, 1993; Adachi et al., 1994) and Hida Terrane (Ishizuka and Yamaguchi, 1969; Tsutsumi, 2003). Hayasaka et al. (1996) assumed a large-scale displacement around the Maizuru Terrane on the basis of the geological relationship with adjacent terranes and suggested that a part of the Northern zone was derived from the Hida Terrane. Rearrangement of Pre-Cretaceous terranes around the Maizuru Terrane thought to be resulted from the strike-slip movement during Jurassic to Early Cretaceous time in East Asia.