

# Cooling process of the basal tonalite magma, Hidaka metamorphic belt, northern Japan

# Toshiaki Shimura[1]; Yasuhito Osanai[2]; Tsuyoshi Toyoshima[3]

[1] Dept. of Geology, Niigata Univ.; [2] Earth Sci., Kyushu Univ.; [3] Grad. Sch. Sci. & Tech., Niigata Univ.

The high-  $dT/dP$  type Hidaka Metamorphic Belt (HMB) in Hokkaido, northern Japan, represents a tilted crustal section of a magmatic arc of Tertiary age. Exposed crustal section forms duplex structure which was formed by the uplift tectonic process. Syn-tectonic tonalite magma intrudes along the floor thrust, ramp, and roof thrust of the crustal-scale duplex. The tonalite magma generated by anatexis of the unexposed lowermost crust.

Pyroxene bearing tonalites (basal tonalite body) is distributed in the Niikappu river region, northern part of the Hidaka Metamorphic Belt. Several type of cooling texture, such as the orthopyroxene pseudomorph and the aplite veins, can be observed within the tonalite body. Cooling process of the tonalite body has been revealed from these textures. The P-T-t paths of the syn-tectonic tonalite suite and the metamorphic layer show the uplift tectonics of the crust. Whereas A P-T-t path of the delaminated lower most crust also can be presumed.