

Genesis history and reverse zonal structure of Quaternary Takidani pluton in the Japan Alps, Japan

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The Takidani pluton which distributes along a major axis of the Japan Alps is the youngest exposed pluton in the world. Its K-Ar age is ranging from 1.0 to 1.4Ma (Harayama, 1998).

The pluton shows reverse zonal structure on the basis of its rock facies of granite-granodiorite, and also shows the reverse zonal structure in terms of its whole rock chemical composition. SiO₂ content increases from 66 at the inner zone to 74 (wt%) at the outer zone.

Changes of rock facies and composition of the pluton are gradually. These facts suggest that the pluton had been formed with an unique magmatic event after eruption of the Hotaka Andesites. Solidification processes of the pluton had occurred with relating to rapid uplift movement in the Quaternary.