

## 40Ar/39Ar phengite age constrains on the exhumation of the eclogite facies rocks in the Renghe metamorphic belt, SW Japan

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Phengites from the eclogite unit of the Omi area were analyzed by both the step-heating 40Ar/39Ar continuous laser-probe technique using single grain and the conventional K-Ar method on the separates. A phengite grain from the coarse-grained pelitic schist displays a plateau age of 342.5 +/- 5.0 Ma calculated from 85 % of the 39Ar released. Phengite separates (K=5.63 wt.%) from the epidote glaucophane schist yields 343.7 +/- 7 Ma. These exhumation/cooling ages of ca. 340 Ma is significantly older than those of non-eclogitic unit (ca. 330-280 Ma) of the Omi area. The petrologic evidence and our new 40Ar/39Ar and K-Ar data including published age data for non-eclogite unit also suggest different exhumation rate for the two units.

Paleozoic Renghe schists are exposed coexisting with serpentinite in the Omi area of the Hida Mountains, SW Japan. The schists are divided into at least two units, namely eclogite unit (blueschist to eclogite facies rocks) and non-eclogitic unit (epidote amphibolite to amphibolite facies rocks). The eclogite unit is composed of pelitic schist (paragonite + phengite + garnet + quartz + rutile +/- clinozoisite +/- glaucophane), and some layers of garnet glaucophane schist and eclogite. The pelitic schists have commonly secondary mineral assemblage of chlorite + albite + titanite, and the eclogites are also partly retrograded into the epidote glaucophane schist. The unit records a loading path from the epidote blueschist facies to the eclogite facies, and decompression path from eclogite facies to epidote blueschist facies.

Phengites from the eclogite unit of the Omi area were analyzed by both the step-heating 40Ar/39Ar continuous laser-probe technique using single grain and the conventional K-Ar method on the separates. A phengite grain from the coarse-grained pelitic schist displays a plateau age of 342.5 +/- 5.0 Ma calculated from 85 % of the 39Ar released. Phengite separates (K=5.63 wt.%) from the epidote glaucophane schist yields 343.7 +/- 7 Ma. These exhumation/cooling ages of ca. 340 Ma is significantly older than those of non-eclogitic unit (ca. 330-280 Ma) of the Omi area. The absence of epidote amphibolite or amphibolite facies overprinting of the eclogite unit suggests quick exhumation after eclogite facies metamorphism. This petrologic evidence and our new 40Ar/39Ar and K-Ar data including published age data for non-eclogite unit also suggest different exhumation rate for the two units.