Oral | Symbol S (Solid Earth Sciences) | S-CG Complex & General

[S-CG61_2AM2]Petrology, Mineralogy and Resource Geology

Convener:*Toshiaki Tsunogae(Faculty of Life and Environmental Sciences (Earth Evolution Sciences), University of Tsukuba), Koichiro Fujinaga(Department of Systems Innovation, School of Engineering, University of Tokyo), Akira Miyake(Department of Geology and Mineralogy, Graduate School of Science, Kyoto University), Nobutaka Tsuchiya(Department of Geology, Faculty of Education, Iwate University), Chair:Koichiro Fujinaga(Department of Systems Innovation, School of Engineering, University of Tokyo), Akira Miyake(Department of Geology and Mineralogy, Graduate School of Science, Kyoto University)
Fri. May 2, 2014 11:00 AM - 12:45 PM 311 (3F)
We widely invite presentations in the fields of petrology, mineralogy and resource geology. Especially description of minerals and rocks, investigation of their origin and evolution by field investigation and/or laboratory experiments, and development of new methods are accepted.

12:15 PM - 12:30 PM

[SCG61-P11_PG]Three pyroxene andesite (pigeonite-augite-hypersthen andesite) from Hakone volcano

3-min talk in an oral session

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Keywords:Hakone volcano, pyroxene geothermometer, pigeonite, magma mixing, three pyroxene andesite, magmatic temperature

Pigeonite phenocryst bearing volcanic rock is very rare in the world. Pigeonite-augite-hypersthen andesite (= three pyroxene andesite or pigeonite andesite) from Hakone volcano is very famous according to the detailed studies on the pyroxenes using microscope by the late professor Kuno (Kuno 1935, Kuno 1936).On the bases of the detailed EPMA analyses of the pyroxene crystallization sequences as well as estimated magmatic temperatures using pyroxene geothermometer, for the pigeonite andesite, the author suggests the following working hypothesis, i.e. the pigeonite andesit was induced by magma mixing between three pyroxenes andesite magma (about 1070 degree C) originated from the primitive high temperature hydras tholeiite magma within secondary magma reservoir opened for water, and the high temperature magma (about 1110 degree C) in the secondary magma reservoir. The key concept is that cocrystallization of three pyroxene phenocrysts under open system for water in the secondary magma reservoir.