

Essential material of the 2000 eruption of Miyakejima volcano: Constraints by the magnetite composition

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<http://www.gsj.go.jp/~tomiya/tomiya.html>

Magnetite compositions in the volcanic ash of the 2000 eruption of Miyakejima volcano were analysed. The composition varies with the type of ash which is classified by its texture. For the type "Myk2000g-2" characterized by many needle microlites and tiny bubbles, magnetite composition concentrates within narrow range, which indicates a single origin (i.e., magma). Magnetite crystals in Myk2000g-2 of Aug. 13 and Aug. 18 are rare and show dissolved texture, in contrast to those of Jul. 14 and Aug. 10. where many homogeneous magnetite crystals exist. Sudden change in some magmatic conditions is suggested between Aug. 10 and Aug. 13. This change of conditions may be related to the maximum explosion on Aug. 18 and the beginning of the major emission of SO₂ gas.