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Geochemistry of Shinmoe-dake 2011 eruption magma, Kirishima Volcano

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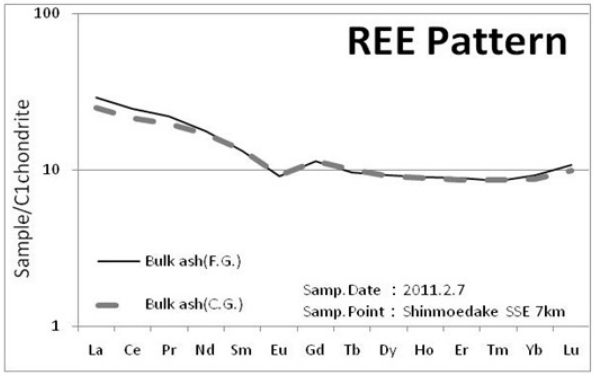
We analyzed major and trace elements (especially rare earth elements) in two volcanic ash samples of 2011 eruption which collected at 7 km south-southeast from Shinmoe-dake, Kirishima volcano using by XRF and LA-ICP-MS.

One is coarse grain (grain size 0.2 - 8 mm) , and another is fine grain (grain size> 0.2 mm). Chemical compositions of these two samples were quite similar.

Their major chemical compositions were SiO_2 53-56%, FeO 9-10%, MgO 7-8%, Na_2O 2.2-2.4% and K_2O 0.9-1.4%. Therefore these two samples were calk-alkaline basaltic andesite. REE pattern of these samples were very similar, Light rare earth elements contents are a little higher than heavy rare earth elements (see figure). This pattern are common for calk-alkaline basaltic andesite.

We will discuss more about chemical variations depend on the eruption period of 2011 activity and chemical difference between 1717 and 2011 eruption samples in this study.



Keywords: Chemical composition, Magma, 2011 eruption, Shinmoe-dake, Kirishima volcano