Concentration and isotope ratio of sulfur species diffused in air after the eruption of Miyakejima volcano in 2000

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Miyakejima volcano Japan erupted on 8th July 2000. A volcanic activity is going on where a large amount of volcanic gas is discharged with the flux of SO2 extending thirty to forty thousand ton per day. We installed a KOH solution kept in a plastic cup without cap. The KOH solution was placed on the southern west flank of the volcano 2 km far from the summit. The gaseous sulfur species absorbed in the solution showed the d34S_CDT was +1.1 permil. A laboratory experiment was carried out to know the isotopic discrimination of SO2 during the absorption. The isotope ratio of the absorbed SO2 was about 1.4~2.1 permil lower than the isotope ratio of SO2 remained in air. Therefore, the isotopic ratio of the diffused SO2 on the flank of volcano is estimated to be d34S_CDT = +2.5~+3.2 permil.