

Formation mechanism of the sulfur chimney at Mt. Iwo-dake, Satsuma-Iwojima Is., Japan

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Mt. Iwo-dake stood on Satsuma-Iwojima Is. is one of the most active volcanos in Japan. Many fumaroles have been active everywhere, and the fumaroles involved significant native sulfur deposits around them. Therefore, many parts of the mountain slopes have been decorated in yellow. In addition, quite high temperature fumaroles up to 900 °C have been observed in the summit crater, so there is a quite rare site where we can access such high temperature fumaroles. Another characteristic of the volcano is occurrence of chimney made up only of native sulfur on the fumaroles. Some of them are growing over 1 m high. Such sulfur chimney has been rarely reported all over the world. In this study we propose how to form such sulfur chimney made on the fumarole. Moreover, we will discuss about physicochemical condition in the volcano based on sulfur isotopic compositions of fumarolic gas and sulfur deposit.