Futago-yama lava dome of Hakone Volcano; an edifice formed by mutiple eruptions

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Futago-yama lava dome, one of the central cones of Hakone Volcano at Kanagawa, Japan, has been presumed to be formed by an eruption of 5ka(Machida,1971;Hakamata & Ito,1996). However, the edifice has twin peaks and its volume is large as a monogenetic dome in the volcano.

We carried out petrological analysis and ^{14}C dating for block and ash flow deposits crops out along the shores of Hayakawa and Sukumogawa Rivers that is designated as CC5 by Kuno(1972). By our whole-rock chemical analysis essential blocks in two block and ash flow deposits are identical to Futago-yama lava dome. One is on the right bank of Hayakawa River at Hakone-Yumoto, forming asmall terrace(Mannen et al.2006).^{14}C age of the deposit is 20,270+90,-90 to 20,560+90,-90yrs BP.. Another is described by Hakamata & Sugiyama(1994) as a block and ash flow originate from Komagatake Volcano, ^{14}C age of 17,920+320.-320yrs BP. on the right bank of Sukumogawa River at Yumoto-Chaya.

We suggest that Futago-yama lava dome had been formed by multiple eruptions took place 20ka,18ka and 5ka. The volume of the block and ash flow deposit of 20ka is estimated to be ten times as large as that of 5ka[$5.2*10^8$kg by Kobayashi(1999)].