

## FT age and characteristics of the Kn-1 Tuff in the Boso Peninsula, Japan: A widespread tephra 15-million years ago

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Recent results of FT dating of Middle Miocene acidic rocks distributed in the Kii Peninsula have revealed most of them were formed around 15 Ma. Of these the Kumano Acidic Igneous Rocks and an arcuate tuffite dike at Nakaoku are considered to be related to formation of large-scale calderas (Aramaki et al., 1977; Miura, 1999; Wada and Iwano, 2001). Furthermore, Middle Miocene felsic pyroclastic flow deposits sporadically exposed in the northern Kii Peninsula region (Muro Pyroclastic Flow Deposits, Sekibutsu Tuff and Tamateyama Tuff) are suggested as the outflow deposits of the Kumano caldera (Hoshi et al., in press; Hoshi, in press). To identify a possible widespread tephra erupted when the large-scale calderas were formed, we investigated the Boso Peninsula where a thick Neogene sequence with intercalated many ash beds is exposed (Nakajima et al., 1981). We sampled eleven ash beds in the Middle Miocene Kinone Formation along the Kanigawa River. Mineral composition analysis, FT dating and morphology analysis (color, shape and roundness) of zircon were carried out. The FT ages of three ash samples are about 15 Ma, which agree with some previous radiometric ages (Takahashi and Danhara, 1997; Takahashi and Okada, 2001). In addition, the following characteristics of a named ash bed (Kn-1) were identified: (1) volcanic glasses are abundant (but remarkably altered), (2) major constituent minerals are quartz, sanidine, plagioclase and biotite, and (3) two kinds of zircon crystals (reddish and colorless) coexist and their FT ages are indistinguishable ( $14.9 \pm 0.6$  Ma (1 $\sigma$ ) as a weighted mean). These characters excluding (1) are coincident with those of the acidic rocks in the Kii Peninsula. We thus propose that the Kn-1 is a possible widespread tephra derived from the Kumano caldera. We need to confirm the accuracy of the correlation based on some unique properties of paleomagnetism and REE in zircon found in the acidic rocks in the Kii Peninsula.