

Damage on glass windows caused by volcanic eruptions

Akihiko Yokoo[1]; Hiromitsu Taniguchi[2]

[1] Inst. Min. Petro. Econ. Geol., Tohoku Univ.; [2] CNEAS, Tohoku Univ

It is known that the vulcanian eruption of Asama volcano of September, 2004, induced some breakage of glass panes around the volcano. There are relatively many reports of damage on glass panes caused by these pressure perturbations through the atmosphere caused by the explosive eruptions at some volcanoes, such as Asama and Sakurajima. However, there is little reports described the extent of damage, such as the size of glass panes and the distance from the volcano, or the nature of volcanic phenomenon deduced from these damages (Sakuma, 1951; Sakurajima Volcano Research Center, 1990). One of the reasons is thought to be the difficulty to evaluate the relations between breakage of glass windows and the perturbations of air waves. Recently, volcanic pressure wave became some kind of importance for the understanding of volcanic eruptions or making hazard map (Saito et al., 2001), therefore, to compile previous reports about glass damage from the eruptions is firstly needs for the protection from volcanic disaster. In this presentation, we'll show the results of systematical compiles of previous reports about these topics and some relations between glass breakage and the pressure waves. Moreover, we'll also discuss the possibility to deduce the volcanic phenomenon.