## Vibration of a plastic reed as an analogy of volcanic tremor mechanism.

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Volcanoes generate various types of oscillations, which are recorded by seismometers and microphones. Among them, harmonic tremors are particularly interesting. As their name indicates, the waveforms of harmonic tremors have similar features as those of sounds generated by musical instrument. Learning of the mechanisms and features of the sounds of musical instruments such as a recorder flute, ocarina, and reed helps understanding the dynamics of volcanic oscillations. This study uses a reed made of a straw and a plastic membrane, which has been used to simulate harmonic tremors observed in the 2011 eruption of Shinmoe-dake, Japan (Ichihara et al., 2013). The vibration mechanism of the reed is similar to the Julian's model (Julian, 1994), which has been applied in many studies of volcanic tremors.

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