

# **Effects of plucking force to fundamental frequency of sound and body vibration of sape**

## **ABSTRACT**

Sape is the popular traditional musical instruments in Sarawak, Malaysia. It was normally played to a form of ritualistic music to induce trance by the local indigenous people. The use of the sape has now become a social instrument to accompany dances and for entertainment. This paper investigated the effects of the plucking force on the sape's string to the frequency of sound and body vibration of the instrument. The experiment is carried out in the anechoic room, the string is plucked to generate the sound and cause body vibration. The sound and vibration were collected using a microphone and accelerometer. The data is then imported to MATLAB for analysis. The fundamental frequency (FF) is then identified after performing a Fast Fourier Transform (FFT) on the data to get the frequency spectrum. It is found that the plucking force has no effects on the fundamental frequency produced by the sound and body vibration. However, the fundamental frequency produced by three different sizes of sape in this study gave different values. The findings in this study can be used as the reference for or guideline for the sape maker, player, and future studies.