Measurement of Nosie from Fan and 1000Hz pure tone using Speaker Assignment - 0, STRUCTURAL ACOUSTICS AND NOISE CONTROL

Mayank Ahuja (SC18B037)
Department of Aerospace Engineering,
Indian Institute of Space Science and Technology
(Dated: 2 March 2021)

In Assignment 0 of the course, sound measurement in the neighbourhood was performed in 1 hour slots for 3 consecutive days. Finally, this report aims to use this data of 3 days to comment on the observations.

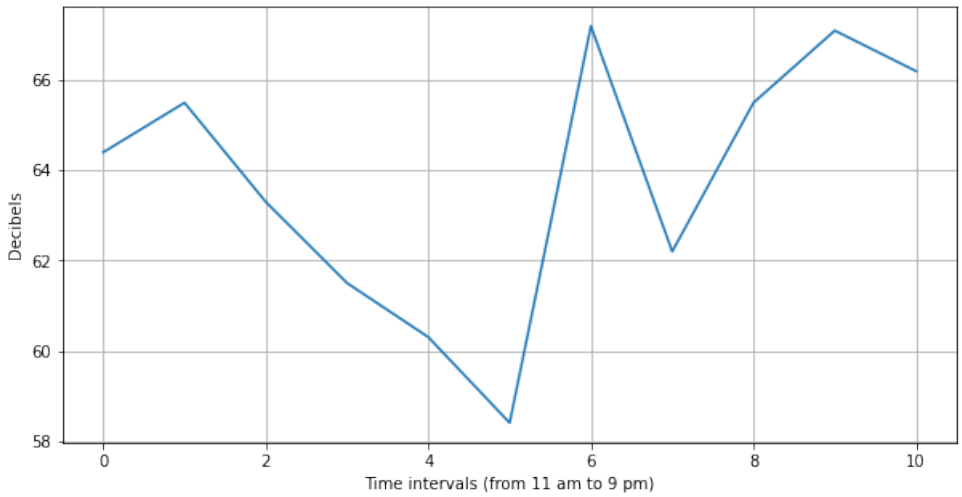

FIG. 1. Sound Measurement for Day 1

I. AIM

The aim of this exercise to note the DB values of my neighbourhood in 1 hour slots and try to identify a pattern (if any) based on that data.

II. SOUND MEASUREMENT

In this report, the application used for measurement of sound is iNVH, which uses Phone's Microphone to pick up the noise and measure its sound level, which it converts to readings in the decibel (dB) scale. Most of these applications allow you to record the measured sound level data, as proof. This application measures both sound and vibration.

III. OBSERVATIONS

The values of sound levels are measured from 12 in the noon to 10 pm in the evening. For the initial two days, the sound measurements were done in a quiet place in my home while on 3rd day, the sound measurements after 9 pm were done at a crowded place to see the obvious difference.

The plots for sound levels at different times of the respective days are shown below.

IV. DISCUSSION

Having obtained the sound levels for 3 consecutive days in my neighbourhood, the sound levels were plotted at different intervals of time. The most obvious difference in the sound levels was observed on Day3 when I got some measurements at the crowded place where average sound level was somewhere around 92 Decibels. While, at my home the average sound level was somewhere around 60 Decibels at the Day time while it got increased by an underwhelming amount at the evening time which was somewhere around 65 Decibels. On Day1 and Day2 I got mostly similar measurements around my neighbourhood.

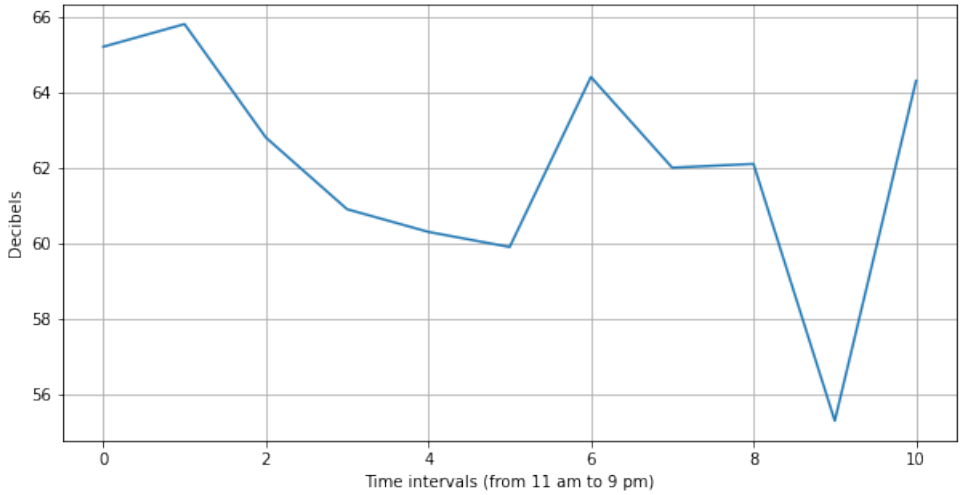

FIG. 2. Sound Measurement for Day 2

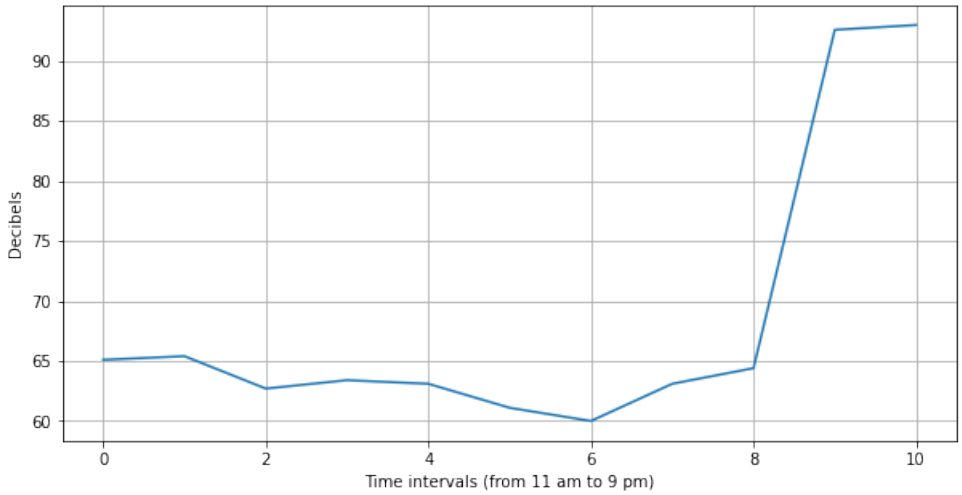

FIG. 3. Sound Measurement for Day 3