

ABSTRACT

Room impulse response can be one of the acoustic parameters of a room. From the impulse response, it can be observed that the reflections that occur in the room are received at each listener's position. Room impulse response can be described in terms of sound pressure level with time. From this description, it can be seen that the sound received by each listener is direct sound, initial reflection, and buzzing sound. The impulse response can also be used to calculate the reverberation time of a room.

The room reverberation time measurement must have various recording points in order to know the average reverberation time. Measurements usually use a microphone that is moved according to the specified recording point. This method is considered to take quite a long time for a very large room. By using several recording devices at once in one sound excitation, it will shorten the reverberation time measurement time.

In this research, the writer implements the measurement of impulse response using a sine sweep signal as a room excitation signal. The deconvolution calculation between the inverse sine sweep signal and the recorded signal will produce an impulse graph from the room. The results of this impulse can be continued to get the reverberation time value of the room using the Schroeder method. The results of measurements at the Syamsul Ulum Mosque obtained the reverberation time value of $T_{60} = 0.705$ seconds, and the class room N307 obtained $T_{60} = 1.166$ seconds.

Keywords : *Room Impulse Responses, Reverberation Time, Sine Sweep*