A SUBJECTIVE ANALYSIS OF EARLY DECAY TIME USING A SIMULATED SOUNDFIELD

By

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ABSTRACT

Early Decay Time (EDT) is an important parameter in quantifying the acoustic character of a particular room. It is measured from the slope of the least-square best linear fit method of the first -10dB of decay, therefore allowing the EDT to be extrapolated to -60dB and compared to the rooms measured reverberation time. An anechoic recording has been presented to subjects via a simulated sound field environment. By presenting two different types of early decays (one ideal and one non-linear), a subjective analysis has been performed to determine if a correlation exists between the subjects perceived reverberation and the measured EDT. Results show that in cases of small EDT/RT ratio scenarios and near-linear EDT/RT ratios (0.6-1.2 seconds), EDT is well correlated with perceived reverberance. Participants performed well at low ratio scenarios indicating subjects perceived reverberance in strong agreement with the measured EDT rather than the objective RT. However, results indicate at ratios greater than 1.2 seconds that EDT is not accurate in representing subjective reverberance.