# Reading Digest3

109136501 陳家麒

This paper proposed a new approach use sinusoidal to develop an analysis/synthesis technique that characterizes speech in terms of the amplitudes, frequencies and phases of the component sine waves and these parameters can be estimated by applying a simple peak-picking algorithm to a short-time Fourier transform (STFT) of the input speech.

Speech signals can use glottal excitation wave form through a time-varying linear filter and glottal excitation can be assumed to two possible states, corresponding to voiced or unvoiced speech in speech applications. First, they modeling Speech Production Model, the speech wave is the integration of glottal excitation and impulse response. Second, they estimate speech parameters and peak-matching. The authors mentioned use Hamming windows for the weighted STFT can provided good sidelobe structure which can eliminate leakage problem.

It is my first time to read speech processing paper, know can use sinusoidal to improve speech processing but it is very difficult to understand how to modeling and optimize because I haven’t known speech processing knowledge, so I think I need to understand basic-knowledge for speech processing first.