

YULE WALKER BASED LOW-COMPLEXITY VOICE ACTIVITY DETECTOR IN NOISE SUPPRESSION SYSTEMS

ABSTRACT

A Yule-Walker based, low-complexity voice activity detector (VAD) is disclosed. An input signal is typically noisy speech (i.e., corrupted with, for example, babble noise). In one embodiment, a first initialization stage of the VAD computes an occurrence of a silent period within the input signal and the AR parameters. The VAD could accordingly compute a tentative adaptive threshold and output hypothesis H_1 (which means speech is present) during this stage. During the second initialization stage, the VAD generally builds a database of associated values and computes the adaptive threshold accordingly. The second initialization stage could also output tentative VAD decisions based on the tentative threshold computed in the first initialization stage. Finally, the VAD periodically retrains or updates AR parameters, threshold values and/or the database and outputs VAD decisions accordingly.

FIG. 7