SPEECH ENHANCEMENT USING OPTIMUM CASCADED DESIGN OF FILTERS IN AN ADVERSE NOISY ENVIRONMENT

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ABSTRACT

Speech enhancement is an attempt to improve speech quality while preserving the information, at the very least speech intelligibility. The general goal of speech enhancement algorithms is to estimate the spectrum of the noise signal or estimate the clean speech signal in order to improve the overall signal-to-noise ratio (SNR). Three types of noises including babble, car and street at different SNR levels (0dB to 15dB) have been taken into consideration and then processed by speech enhancement methods encompassing different classes of algorithms: Spectral Subtractive (SS), statistical model based on Kalman Filter (KF) algorithm. In this paper we attempt to encounter the limitations of the individual performances of these filters through different cascading combinations.