Adaptive Noise Cancellation for Speech Processing in Real TimeEnvironment

**ABSTRACT**

The most common problem in speech processing is the interference noise in speech signals. Interference can come from acoustical sources such as ventilation equipment, traffic crowds and commonly reverberation and echoes. The basic adaptive algorithm is the LMS algorithm but its’ major drawback is the excess mean square error increase linearly with the desired signal power. We proposed an algorithm for adaptive noise cancellation using normalized differential least mean square NDLMS algorithm in real time environment. In this paper NDLMS algorithm is proposed to deal with situation when the desired signal is strong for example, speech signal. Simulations were carried out using real speech signal with different noise power levels. Results demonstrate the superiority of the proposed NDLMS algorithm over LMS algorithm in achieving much smaller steady state excess mean square error.

Keywords: ANC, Noise Power, Speech Signal, Step Size , SNR.