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Author Wei-Chin Wu
Author's Email Address No Public.
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Abstract
In most practical applications of active noise control, the acoustic feedback is a major problem that often interferes with the operation of the control system and even renders it unstable. The optimal collocated positions of secondary source with two microphones are studied and the separate of transfer function method that reduce the influence of acoustic feedback are developed based on plane wave transmission theory of sound and concept of transfer function in a duct. After, In order to identify the variation of the signals and find out individual correlation coefficient, cross correlation function analysis between primary noise signal and reference input signal is processed. In this study, we use LabVIEW programming language of PC-Based to carry out the reduction of actively noise with theoretical equations of acoustic feedback cancellation and incorporate Filtered-X LMS algorithm. Furthermore, it was to verify that the reliable of simulation and analysis for the processed of signal by the concept of cross correlation function. The results showed and compared that the method of acoustic feedback cancellation incorporated with the Filtered-X LMS algorithm can effectively improve the influence of acoustic feedback, and reduce the noise in a duct.
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