

## 피치 알고리즘 수정 및 소음에의 적용

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### Modification of Pitch Algorithm and Its Application to Noise

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**Key Words** : spectral pitch, virtual pitch, pitch strength, place theory

**Abstract** : Pitch is a perception related to frequency, one of the psychological aspects or attributes of tones, and an important factor to determine sound quality of sound together with loudness and timber. while a study on pitch has been actively achieved in the part of speech recognition and speech separation, that for analysis and improvement of product sound quality is not yet enough. In this study, for applying to noise, existing pitch extraction model based on the place theory was modified according to Zwicker's subjective data related to pitch. After this modified model was applied to various basic noises with or without tonal component, application range of this modified model was limited by means of its results. Finally, as applying to product noise with fundamental frequency and harmonics, this study confirmed that pitch analysis was able to do an important role for sound quality analysis

## FRF 누설오차 개선에 의한 전달함수 합성법의 향상

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### An Enhancement of Transfer Function Synthesis by Improving the Leakage Error of FRF

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**Key Words** : Transfer Function Synthesis(TFS), Frequency Response Function(FRF), Leakage Error(누설오차), Impulse Response Function(충격응답함수)

**Abstract** : The frequency response function(FRF) of each substructure is used in the transfer function synthesis method(TFS). The dynamic characteristics of an entire system are obtained by synthesizing results of substructures. The accuracy of TFS will depend on that of FRF of each substructure. The impact hammer testing is widely used to obtain the modal characteristics of substructures. In this method, however, the impulse response spectrum by impact hammer testing will contain several errors, such as finite record length error and leakage error which depend on data acquisition time. In this paper, the method to remove these errors is presented. Several example shows that the FRF of synthesized structure can be predicted exactly.