

## 바닥충격음의 평가등급 설정에 관한 연구

류종관\* (한양대 건축공학부) · 전진용\* (한양대 건축공학부)

### A Study on the Rate Classification of Floor Impact Noise

Jong-Kwan Ryu, Jin-Yong Jeon

**Key Words** : Floor Impact Noise, Rate Classification, Auditoty Experiment, Social Response

**Abstract** : Auditory experiments based on subjective responses were undertaken for the heavy and light weight impact noises, rubber ball impact noise and real impact noise. Relations between noise levels and subjective evaluations were also investigated. As a result, it was found that the subjective responses of all floor impact noise sources showed a similar trend except real impact noise. The noise class was rated with the range of sensible satisfaction by investigating the various social responses for the floor impact noise. The rate classification is suggested as a design guide for concrete slabs which satisfy the residents' requirements in various sound insulation capacities, in multistory residential buildings.

## 연성된 셸 구조물의 진동 파워흐름해석

김일환\* (서울대학교) · 홍석윤\* · 박도현\* · 길현권\*\* (수원대학교)

### Vibration Power Flow Analysis of Coupled Shell Structures

Il-Hwan Kim, Suk-Yoon Hong, Do-Hyun Park and Hyun-Gwon Kil

**Key Words** : Coupled Shell, Power Flow Analysis, Power Transmission Coefficient, Power Reflection Coefficient

**Abstract** : In this paper, Power Flow Analysis (PFA) method has been applied to the prediction of vibration energy density and intensity of coupled shell structures in the medium-to-high frequency ranges. To consider the wave transformation at joint between shell elements, power transmission and reflection coefficients are investigated for various joint angles, and here Donnell-Mushtari thin shell theory has been used. For validations computations are performed to analyze the response of two and three coupled shells by changing the excitation frequency and damping loss factor.