

## 진동제어기 설계를 위한 실물크기 5층 건물의 시스템 식별

민경원<sup>†</sup> · 이영철<sup>†</sup> · 이상현<sup>\*</sup> · 박진일<sup>\*\*</sup> · 김두훈<sup>\*\*</sup> · 박민규<sup>†</sup>**System Identification of a Full Scale Five-story building  
for Vibration Controller Design**

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Jin-Il Park, Doo-Hoon Kim, Min-Kyu Park

**Key Words** : System identification, vibration, natural frequency, full scale, building structure.

**Abstract** : System Identification is carried out for a full scale five-story buling to design a vibration controller design. Dynamic characteristics such as natural frequencies, damping ratios, and modes are obtained from the input/output information by both sine-sweet method and white noise method. The active mass driver installed on the third floor is applied as external loading to move the building and each floor acceleration is measured and processed for the system identification. The identified building will be experimentally investigated again with viscoelastice dampers installed at inter-stories to obtain the response behavior. Corresponding result will be presented soon.

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## 바닥마감재에 의한 바닥충격음 차음특성 연구

기노갑<sup>†</sup> (전남대학교) · 권현중<sup>\*</sup> (LG화학) · 송민정<sup>\*\*</sup> (전남대학교) · 김선우<sup>\*\*</sup> (전남대학교)**A Study on the Floor Impact Sound Insulation  
Characteristics of Floor Coverings**

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**Key Words** : Floor impact sound insulation, Floor coverings.

**Abstract** : It is increasing the interest on the comfortable dwelling environment, while sound insulation performance of materials and elements used in building is falling down as they become thicker and lighter. Therefore, sound insulation performance in building has become the most important factor determining the level of housing, especially for apartment that has common wall and floor with next neighbors. According to results surveyed the satisfaction of residents who live in apartments in Seoul, Gwangju, Daegu and Daejeon, one third of them feels the neighbor's noise noisy and three fourth withers because of noise. The noise sources in relation to floor impact sound is the biggest problem among indoor noises and the factors affecting to floor impact noise are classified into reinforced concrete slab, buffer layer and floor coverings. This paper aims to experiment the sound insulation characteristics of floor coverings as their types and to analyse their noise reduction effect. .