

## 지반과 슬래브궤도의 상호작용

강보순<sup>†</sup> (경주대학교 건설환경공학부)

### Soil and Slab Track Interaction

Kang, Bo-Soon

**Key Words** : 지반동역학, SSI, 철도궤도 .

**Abstract** : In this report, numerical investigations have demonstrated, that the displacement underneath a moving loading reach a maximum value, if the speed of the load is equal to propagation velocity of the maximum wave. The load speed for which the maximum displacement occurs is called critical speed. The critical speed divides the velocities in a subcritical and a super-critical region. By means of calculations the dynamic behaviour of the slab track-soil is investigated. For concrete slab track dynamic wheel load are given in dependence of relevant excitation mechanism and speed of the train. These loads can be used for the dimensioning of the track as well as for the prognosis of the vibrations at the track and the surrounding soil.

## 터널통과 전동차 내외부 소음 특성 규명

조준호<sup>†</sup> · 이규진\* · 정우성\*(한국철도기술연구원) · 홍철기\*\*(도시철도공사)

### Identificaton of Noise Characteristics for Subway Train Passing Through the Undergroud Tunnel

Jun-Ho Cho, Kyu-Jin Lee, Woo-Sung Jung and Cheol-Gee Hong

**Key Words** : Subway train, Tunnel, Noise, Squeal

**Abstract** : Passengers in automobile or train are exposed to a worse noise environment when they are in the tunnel than in the open field. This is due to a relatively higher space density of sound energy by multiple reflection phenomenon of noise generated by operation of transportaton vehicles from tunnel wall compared to open field. In this study, noise characteristics of subway train running through a tunnel were investigated at straight/cruved track and tunnel type(semi circula/box). Also the noise measured simultaneously at inner and outer sides of train running through a tunnel, so that the coherence of the various noise sources of subway train to inner noise was evaluated.