Model Experiments for Investigating Compression Wave Generated by Train Entering Tunnel Exit Hood with Inside Partition

Sanetoshi SAITO Tokuzo MIYACHI Masanobu IIDA

An impulsive pressure wave radiated from a tunnel exit portal, called a micro-pressure wave, is one of the important wayside environmental problems in high-speed railways. The most typical countermeasure is a tunnel 'entrance' hood which is installed at a tunnel 'entrance' portal. Recently, we have proposed a new countermeasure, which is a hood with an inside partition installed at a tunnel 'exit' portal. Since Shinkansen tunnels are double-tracked tunnels, trains running in the opposite direction naturally enter this 'exit' hood. Consequently, it is necessary to estimate the effect of the inside partition of the exit hood on the compression wave generated by the opposite train. In this paper, this effect has been investigated by model experiments. As a result, it is shown that by selecting the specifications suitably the 'exit' hood has no bad influence on the compression wave.