

Vibration Reduction Effect of Softer Rail Pads for High Speed Trains

Hidehumi YOKOYAMA Naoyasu IWATA Kimitoshi ASHIYA

To obtain basic characteristics of more resilient rail pads for slab tracks as a countermeasure for Shinkansen-induced ground vibration, we performed a motorcar test on a test line on the RTRI premises and field test measurements on a Shinkansen-line. According to the results of these tests in which the rail pads commonly used (nominal spring constant is 60 MN/m) were replaced by the softer rail pads (nominal spring constant is 30 MN/m), the track supporting spring constant was reduced to approximately to 70 to 75 percent of the original track. The reduction of ground vibration as obtained by the on-site test was approximately 2 to 4 dB in the frequency range of 25 to 80-Hz of the spots adjacent to the Shinkansen viaduct.