Effect of Track Structure Condition on Limit Value for Uneven Displacement at Bridge Boundary

Shintaro MINOURA Manabu IKEDA Munemasa TOKUNAGA

In the Design Standards for Railway Structure and Commentary (concrete structure) provides a guideline on the limit values for uneven displacement (angular bent / misalignment) of the track surface with regard to the recoverability of track damage at normal conditions and during earthquakes. However, in recent years, the fastening intervals and support stiffness of real railway lines have often differed from the assumptions when calculating the reference limit values in the aforementioned design standard. In addition, there is a possibility that the limit values for recoverability can be increased by selecting appropriate track structure conditions at the time of design. In this study, we sort out the track conditions that are dominant over the limit values and evaluate the influence of various parameters such as the track support stiffness and the fastening interval on the limit value of track maintenance and recoverability.