Developing an Efficient Method of Applying High-Frequency Measured Track Inspection Data to Diagnosis of Track Condition and Establishment of Optimal Track Maintenance Strategy

Kosuke SANO Masashi MIWA Tsuyoshi YAMAGUCHI
Takafumi YOSHIDA Kenta YASAKA Kazuhiro SAKAGUCHI

The acquisition of track inspection data measured at high-frequency enables us to predict future track conditions more precisely than ever before. On the other hand, a huge quantity of data must be appropriately processed to realize such prediction; therefore it is necessary to utilize the data effectively. In this paper, we analyzed the data and examined the data-processing method suitable for high-frequency measured track inspection data. Further, we focused on the seasonal variability phenomenon of track irregularity and examined the methods to detect the section showing such seasonal variation and to predict future condition of the section. Finally, we developed the track tamping scheduling system to which the high-frequency measured track irregularity data can be applied.