

Modeling an Track Condition Prediction and Optimizing Mid-term and Long-term Track Maintenance Plan

Masashi MIWA Syuhei YAMAMOTO Mami MATSUMOTO
Takashi OSHIMA Takafumi YOSHIDA

Through appropriate maintenance activity, the railway track condition must be kept on a satisfactory level not only for a short term but also for a long term. Therefore, we have developed a track condition prediction model for establishing the mid-term and long-term optimal maintenance planning for several kinds of maintenance work with due consideration on the various restrictions. By using the mid-term model, we can predict track irregularity with due consideration on ballast renewal schedule. Moreover, by using the long-term model, we can predict track condition (track irregularity, rail roughness, ballast deterioration) even in the case where the track and transportation conditions change, whereby it becomes possible to analyze the effect of track maintenance or track upgrading policies.