

عنوان مقاله:

Evaluation and Prediction of Track Geometry Condition

محل انتشار:

پنجمین کنفرانس بین المللی پیشرفت های اخیر در مهندسی راه آهن (سال: 1396)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

A significant part of railway track maintenance cost is related to track geometry maintenance activities. Evaluation of the track geometry condition is an essential prerequisite to plan maintenance activities to keep railway track performance in an acceptable level. In this regard, both track geometry indicators related to preventive and corrective maintenance activities must be considered. In this study, defects related to track geometry degradation and isolated defects are considered to evaluate the track geometry condition. In order to model the evolution of track geometry condition a piecewise exponential model is used by considering the standard deviation of longitudinal level as the degradation characteristic. A multivariable linear regression model is used to model recovery value after tamping. The isolated defects, related to longitudinal level, alignment, and twist, are analyzed using the data from the Main Western Line in Sweden. It is found that track sections with switch and level cross are vulnerable for isolated defects. In addition, it is observed that the elimination of isolated defects by maintenance actions is not durable

کلمات کلیدی:

degradation modeling, isolated defect, railway, tamping, track geometry

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