

Development of a predictive model for rail track maintenance on conventional lines

(thesis @ POLIMI, refer to Ing. Di Gialleonardo, Prof. Facchinetti, Ing. La Paglia)

The increase of rail traffic in the last decades requires a continuous improvement of railway lines monitoring techniques, in order to provide higher levels of infrastructure safety and to properly manage effective maintenance plans.

The aim of the thesis is to develop a predictive model to estimate synthetic indexes for track geometry parameters on conventional lines, based on acceleration measurements gathered on in-service vehicles. In particular, statistical methods have been already successfully implemented for the monitoring of the track longitudinal level on high-speed lines, where service vehicles typically run at the maximum speed. However, along conventional lines this seldom occurs, so that speed dependency should be accounted for in the estimation process.

