

Condition based maintenance for long wavelength defects on high-speed lines

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

Running comfort on high-speed lines is mainly determined by the vehicle response to track irregularities characterized by long wavelengths (longer than 70 m). Standard maintenance operations typically address defects with shorter wavelengths, while the correction of long wavelength defects is assigned to more relevant and expensive maintenance interventions.

Using experimental data acquired by a diagnostic train, in this thesis the correlation between track geometry (considering long wavelengths) and vehicle-based measurements will be addressed, defining a methodology to assess the evolution of long wavelength defects and to provide an early and better scheduling of relevant maintenance operations.

