

Estimation of lateral track irregularities based on vehicle on-board measurements

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

In order to ensure safety in railway lines, track geometry parameters should be monitored. On high-speed lines, maintenance operations are mainly performed to correct vertical track irregularities. However, the effect of lateral irregularity on safety can be significant when the magnitude of the defects is large; this condition can be found along conventional lines.

The purpose of the thesis is the study of the effect of lateral track irregularity on the dynamic response of the vehicle, investigating the possibility to estimate it based on vehicle on-board measurements. The thesis will rely on both numerical simulations and already available experimental data.

