

**Abstract**

The testing of the running characteristics of railway vehicles requires well defined boundary conditions like track geometry quality. Test sections with the same track geometry quality must lead to the same dynamic vehicle response forces. The state of the art methods don't fulfil this important requirement for a track quality definition. Our proposed method for track geometry assessment considers the vehicle/track interaction. 'Representative' transfer functions are used for the prediction of the vehicle reaction. Therefore the results show a significant enhancement of the correlation between the track assessment quantities and the vehicle response forces.