

## **The effect of kinematic oscillations on harmonic wheel flange wear of rail vehicles**

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A number of factors affect rail vehicle steel wheels. Kinematic oscillations uncovered by Klingel, is amongst the parameters affecting dynamic behaviour of the wheelset. Normal and tangential forces are also included within the wheel/rail interface. Geometry and material properties of the contacting bodies are within these parameters. Altogether, these inputs to the rail/wheel system can result in plastic deformation and wear. The authors of this paper make their attempts to introduce a noble study including a harmonic wear pattern in circumference of the flange region when contacting the rail gauge corner. Theoretical aspects of this harmonic pattern are then developed and presented.