

# **STUDY OF FLANGE CONTACT FOR A RAILWAY TRUCK ON CURVED TRACK**

Nilotpal Banerjee

Department of Mechanical Engineering, National Institute of Technology, Durgapur, India.

E-mail: nil\_rec@yahoo.com

## **ABSTRACT**

Dynamics of a railway truck (Bogie in European usage) on fixed curved track very much resembles that of a rail vehicle. While entering a curve from a tangent track or starting from curve entry point the leading edge of the front wheelset makes the flange contact first. It is very interesting to study the nature and timing of the flange hitting and its variation with stiffness of suspensions in relation to angle of attack of wheelset. Bond graph model of a railway truck on flexible curved track has been created with eighteen degrees of freedom considering six degrees of freedom for each wheelset and truck frame. Bond graph model of a single wheelset created earlier is used to model the truck. The model is created and simulated for a given set of nominal parameter values with rigid track condition.

**KEY WORDS:** Bond graph, Truck, Angle of attack, Capsule