Freight Bogie Prototype Properties Analysis by Means of Simulation Computations

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The object of this article is to analyse the stability of changed three axle rail bogie structure, which is characterized below by higher axle loads combined with good operational properties. The occasion of change was the unstable behaviour of the system during prototype development. For validation of the structure design, there has been created a substitute simulation model in program Simpack, by which the computations were performed for partial system. Model represents only elasto-kinematic properties of the system. For stability analysis of the system, there have been a set of boundary conditions from different degrees of freedom to state out of balance. Simulation calculations show, that up to one oscillation in the y-direction, which is damped in real bogie by friction in suspension and dampers Lenoir, is the system after all deflections in initial condition. Substantial unstable behaviour does not show already.

Keywords: Stability Analysis, Bogie Prototype, Balance Beams, Simulation Computations.

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References


