

## Multibody System of a Rail Vehicle Bogie with a Flexible Body

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**In the field of designing of new or renovating the existing rail vehicles the issue of individual structural units lifetime is currently appears increasingly coming to the fore for the vehicles long-term operation. On one hand, modern tools of virtual reality allow performing stress analysis of structures, most frequently using FEM, on the other hand, there is software designed for multibody system assembly intended for the evaluation of rail vehicles dynamic properties. Flexible bodies' implementation into a rail vehicle multibody system considerably extends the possibilities of computer simulations of rail vehicles running. In this paper we present inclusion of a flexible body into a multibody system of a rail vehicle bogie. We chose a freight wagon bogie for the purposes of modelling and simulation. Parameters of the freight wagon correspond to a Y25 bogie. Simulation calculation of the bogie running on the track have been performed using a track model consisting of two reverse curves.**

**Keywords:** multibody system, flexible body, rail vehicle, computer simulation

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