

**EFFECTS OF CHANGES IN FORM OF WHEEL PROFILES IN OPERATION ON STABLE RUNNING FREIGHT CARS**

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The work purpose was to study the effects of changes in the form of profiles of the railway wheels in operation on stable running the freight cars. Methods for mathematical modeling and computer simulation, the theory of oscillation have been used.

The paper deals with the study of the effects of changes in the form of the wheel profiles in wear on stable running the two open cars: with complexly retrofitted bogies of the 18-100 type (ITM-73 wheel profile) and the standard car equipped with the 18-100 standard bogies ( standard wheels).

Values of a critical speed for car running in various wear of wheels are derived. It is shown that the greater wheel wear, the greater the difference in values of a critical speed of the vehicles under consideration.

It can be concluded that a complex retrofit of bogies improves significantly stable running both empty and loaded cars.

**Keywords:** *form of wheel profiles in wear, critical speed, stable running, complex retrofit of bogies.*

*1. Ushkalov V. F., Mokriy T. F., Malysheva I. Yu., Mashchenko I. A., Pasichnik S. S. Complex retrofit of running gears of freight cars. Vagonnyi Park. 2007. No 2. P. 18 – 22. (in Russian)*