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PLACE OF ACADEMIC M.P. PETROV IN THE DEVELOPMENT OF RAILWAY TECHNOLOGY

Summary

Mykola Pavlovich Petrov (1832-1920) is known to us as an active researcher of track management techniques of domestic railways. He devoted more than 218 of his scientific works to this issue. The contribution of M.P. Petrov deserves special attention of researchers in the development of dynamic railway track calculation. In particular, his hypothesis of equal proportionality between deflection and load under static and dynamic action of the load, etc., is considered.

In connection with the increase in train speed and safety requirements, it was necessary to carry out a dynamic calculation of the railway track. Methods of dynamic track calculation were developed by domestic scientists, mainly Mykola Pavlovich Petrov. He proposed the hypothesis of equal proportionality between the deflection and the load under static and dynamic action of the latter, formulated and solved in finite differences the differential equation of the movement of the center of inertia of the wheel along the rail.

M.P. Petrov was the first to consider the effect of unevenness of the wheel and track on the tension in the rail. The scientist took into account the forces of inertia of the wheel and elements of the superstructure. He also introduced into the calculation the vectorial components of the unbalanced forces of inertia of the rotating and moving parts of the mechanisms.

Key words: railway transport, wheel, rail, track, equipment.