ABSTRACTS OF PH.D. THESES

Selected abstracts of Ph.D. theses submitted at Moscow State University of Railway Engineering

Alferova, A. A. Evaluation of quality of transport services in railway transport. Abstract of Ph.D. (Economics) thesis. Moscow, 2017, 24 p.

A system of indicators is proposed to assess the quality of transport services for cargo owners, taking into account their impact on macro and microprocesses in the economy. Forms of management reporting of the carrier and the operator of rolling stock for planning and quality control of transport service for cargo owners have been developed, and an algorithm for determining the impact of cargo owner risks on formation of a freight base of the railway transport has been proposed. The economic losses of cargo owners are estimated from the carrier's violation of the safety of the carriage of goods and the terms of their delivery, as well as the untimely provision of rolling stock for loading by the operator.

Bakharev, E. V. Economic justification of project management of investment activity in railway transport. Abstract of Ph.D. (Economics) thesis. Moscow, 2017, 24 p.

The basic tendencies of perfection of the mechanism of investment activity management in the conditions of transition to a design principle of management on a railway transportation have been revealed. Structural changes in the investment sphere in transport have been determined, and the investment activity of its participants has been assessed to determine the priority of optimizing resources in the implementation of investment projects. Methodical approaches have been proposed for coordinating the resource support of investment projects in transport with the budget management system.

Basyrov, M. A. Economic justification of the process approach in managing the activities of the railway container operator. Abstract of Ph.D. (Economics) thesis. Moscow, 2017, 24 p.

Conceptual models for managing changes in activity when applying the process approach are proposed. The tree of strategic goals of the railway container operator has been decomposed with the help of modernized key performance indicators. A system of indicators for performance analysis has been developed, reflecting the effectiveness of business processes and the results of achieving strategic goals.

Chechulin, E. S. Substantiation of rational parameters of intercar connecions of passenger cars of trains of constant formation. Abstract of Ph.D. (Eng) thesis. Moscow, 2017, 20 p.

The detailed computerized models of the coupling offered in the work allow us to refine the results of estimation of dynamic parameters of passenger cars of trains of constant formation by mathematical modeling methods. The deterioration in dynamic characteristics of passenger cars of trains of constant formation was confirmed in the absence of buffer devices in their design. The developed design solutions for the intercar connections of trains of constant formation allow improving the dynamic characteristics of cars when their tare is reduced. A technique is proposed that allows to determine, at the design stage, rational values of the coefficient of resistance of intercar loading dampers.

Panachev, O. I. Increase of maintenance-free run of a freight car by reducing the vibration load of the carriage part. Abstract of Ph.D. (Eng) thesis. Moscow, 2017, 24 p.

A refined mathematical model of a freight car with bogies equipped with antifriction wear-resistant absorbers of vibration (vibration absorbers) is recommended. It allows to perform a quantitative and qualitative assessment of the effect of vibration absorbers on the dynamic properties of the bogie for real conditions of the railway track in combination with the maximum permissible wear of parts and assemblies in the bogie, and to select the rational elastic-friction parameters of the supporting vibration absorbers. A refinement has been made to the mathematical models describing the movement of the car on freight bogies, taking into account the interaction of elements of the vibration absorber type in friction units operating under dry friction conditions. As a result, technical solutions have been proposed to ensure an increase in maintenance free run and operating time for failure of a freight car, which are of great practical importance for railway transport and can be used to justify the increase in the value of the overhaul time of a freight car.

Ptushkina, L. V. Improvement of the system of protection against collisions of rolling stock on the infrastructure of railway transport. Abstract of Ph.D. (Eng) thesis. Moscow, 2017, 24 p.

Technical solutions for pedestrian crossings through railways, a technique for determining the visibility of an approaching rolling stock for various conditions have been developed and approved for implementation. Corrected estimates of the safe passage of citizens through railways in one level have been obtained. As a result of theoretical and experimental studies, the parameters of the device for determining train speed in the approach area were determined by transmitting a high-frequency signal along the rail. A heating system is proposed at pedestrian crossings through railways to ensure safety in winter conditions.

Vasilieva, D. N. Improving the working conditions of locomotive crews on the basis of reducing the influence of noise in the locomotive cab. Abstract of Ph.D. (Eng) thesis. Moscow, 2017, 24 p.

Mathematical models for determining equivalent sound levels in cabins of locomotives, taking into account the distinctive features of certification tests and working conditions, have been developed. Dependencies of equivalent sound levels in the locomotive cabs on the speed of movement, the impact of radio communication, the operation of the electro-pneumatic valve, movement with open windows have been established. The sound level conversion coefficients have been calculated, which allow to compare the equivalent sound levels in the cabs of different types of locomotives, obtained during certification tests with sound levels obtained at SES, to determine the equivalent sound level in the locomotive cabin, depending on speed.