ABSTRACTS OF PH.D. THESES

The selected abstracts of D.Sc. and Ph.D. theses submitted at Moscow State University of Railway Engineering

Bugreev, V. V. Economic justification of methods to increase the competitiveness of construction organizations. Abstract of Ph.D. (Economics) thesis. Moscow, 2016, 24 p.

The main scientific message of the research is to substantiate the method of structural introduction of quality management in the conditions of a self-regulation system. At the same time, a methodology for analyzing economic losses in the process of overcoming barriers in the construction market, methodological approaches to increasing the competitiveness of an enterprise and assessing the effectiveness of its activities are offered.

Gerasimov, V. A. Features of accounting of climatic and permafrost-soil conditions at designing culverts and filtering apertures on roads of the north of Western Siberia. Abstract of Ph.D. (Eng.) thesis. Moscow, 2016, 24 p.

The peculiarities of surface and ground water filtration outside the culvert zone are revealed, the dependence of the watering character of the territory at the tube heads on the transverse slope of the terrain, the size of the pores of the filtering slot, on the degree of its capacity in the spring period, the deformation of pipes from the height of the embankment and the type of temperature influence are established. The speed of snow wreath in the autumn season is determined. A methodology for conducting temperature observations in the organization of monitoring was developed.

Korovin, M. Yu. Substantiation of economic methods for effective development of rail transport with a decrease in the state's share in infrastructure projects. Abstract of Ph.D. (Economics) thesis. Moscow, 2016, 24 p.

The potential sources of extra-budgetary development of railway infrastructure have been specified, the need for improving the mechanism of using the cumulative component as a source of long-term resources formation, increasing the share of institutional and private investors is grounded. A method is proposed for assessing the effectiveness of implementing an infrastructure development project using real options on the basis of comparison with the net present value method.

Kosarev, I. A. Multifactor estimation of electrical safety conditions when performing road works on electrified railways. Abstract of Ph.D. (Eng.) thesis. Moscow, 2016, 24 p.

The development of the structure and algorithms for functioning of the electrical safety maintenance system for conduct of track operations, the method for calculating the zones of safe maintenance of the disconnected sections of the contact network during the major overhaul of track in zones of electromagnetic influence are performed. The algorithm for calculating the electric field strength in the zone of the track machine operator, the method of certification and personnel selection for electrical safety using the procedure of multivariate statistical analysis are substantiated.

Lakin, I. N. Monitoring of technical state of locomotives according to on-board hardware and software systems. Abstract of Ph.D. (Eng.) thesis. Moscow, 2016, 24 p.

A model for monitoring the technical state of locomotives using the data of on-board hardware and software complexes, railway information systems and depot systems for technical diagnostics, as well as algorithms for protection against dangerous operating conditions associated with exceeding the maximum permissible current loads for domestic AC electric locomotives are developed. A method and an analytical system for risk management in the organization and conduct of locomotive repairs are proposed.

Ter-Martirosyan, A. Z. Interaction of the foundations of buildings and structures with a water-saturated base in accounting of nonlinear and rheological properties of soils. Abstract of Ph.D. (Eng.) thesis. Moscow, 2016, 48 p.

A universal rheological model of soil skeleton under shear has been developed that describes all three main types of rheology – creep, relaxation and kinematic shift, and a soil model for residual deformations with cyclic and low-frequency vibration influences. One-dimensional, flat and axisymmetric consolidation problems of water-saturated bases have been solved, as well as the task of determining additional stresses around the leading borehole with the forced expansion of its diameter, the interaction of a long pile of finite stiffness with the surrounding and underlying soils, according to stress-stain state assessment of the transformed weak soil layer, and the critical load on foundations of finite width and finished diameter.

Zainagablinov, D. A. Features of interaction of railway tunnels with soil heterogeneous masses (on the example of the North-Muisky tunnel). Abstract of Ph.D. (Eng.) thesis. Moscow, 2016, 24 p.

The necessity of accounting of geodeformation effects in inhomogeneous soil arrays as a result of seismic and fault-creep geodynamic activity is substantiated. Analytical and numerical models for determining the efforts in the lining of railway tunnels are proposed to neutralize these impacts. Scientifically-methodical aspects of constructing a monitoring system for transport tunnels in inhomogeneous soil masses to control compliance with design conditions have been developed. ●