

## ANNOTATIONS

**The concept «black box» in estimation of shipping locks' safety / M. Kolosov, K. Morgunov // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 21-23.**

Describes the principle of analysis of objects regulated by «Methodological recommendations for monitoring technical condition and estimation of safety level of navigable hydraulic structures», which don't take into account risks of accidents and definition of vulnerable elements, called «black box».

**Key words:** navigable hydraulic structures, technical condition, safety level estimation, accidents.

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**The main problems of russian transport system and the ways to solve them / O. Domnina, A. Sitnov, I. Lipatov // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 23-25.**

Shows the results of analysis russian transport system's work, identifies its main problems of development and suggests the ways to solve them.

**Key words:** transport system, types of communications, cargo and passenger transportations, problems of development.

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**Complex substantiation for projects to develop local importance water transport systems / S. Sergeev, Y. Urtmintsev, S. Zheleznyov, A. Sytnov // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 32-37.**

Analyses effectiveness of incorporation infrastructure of river communication into regional transport system with local importance water ways. Describes the authors' mathematical model for substantiation projects to develop water transport systems.

**Key words:** water ways, fleet, structure analysis, modelling, optimization.

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**The analysis of tests of ship's active control devices with the help of relative hydrodynamic quality coefficient / Z. Kagan // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 38-39.**

Suggests methods to analyse tests and hydrodynamic calculation of ship's active control devices with the help of relative hydrodynamic quality coefficient and coefficients of system construction elements' influence on its working body.

**Key words:** ship's active control devices, relative hydrodynamic quality coefficient, coefficients of influence.

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**The estimation of changing condition of same-type ships in exploitation period for the purpose to analyse risk of their limit decreasing productivity/ A. Burkov, V. Marley, V. Nikiforov // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 39-42.**

Describes the model of changing condition of same-type ships group in exploitation period with taking into account dependance between wear intensity and failures of machines and equipment and quality of work, repair, technical support, fleet's middle age.

**Key words:** fleet, technical exploitation, wear, repair, useful life, model.

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**The analysis of question about introduction specialization «transport safety of sea and river fleet engineer» and training on it / A. Pivovarov, N. Bozhuk // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 42-46.**

Describes questions of training specialists in creating systems of transport safety and directly dealing with its providing processes on water transport objects including education of formulated main orientations for construction workbench.

**Key words:** system, transport safety, competences of engineer.

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**About ecological danger of production processes in the port / E. Skvortsov, S. Kubrin // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 46-48.**

Describes the content of port's production processes polluting environment, enumerates proper activities for creating system of ecological safety.

**Key words:** production processes, port, environment, ecological safety.

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**Mathematical description of surface of ship's hull part immersed in water / R. Khvostos, V. Tikhonov, A. Klementyev // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 48-51.**

Suggests the method of mathematical description of surface of ship's hull part immersed in water derived from theoretical drawing.

**Key words:** ship, hull, waterline.

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**The method of numerical integration of equations which describe surface of ship's hull part immersed in water / R. Khvostos // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 51-54.**

Considers the method of numerical integration of equations which describes surface of ship's hull part immersed in water. Reviews interface and principles of work of computer program for calculation characteristics of particular vessel.

**Key words:** ship, numerical integration, programming.

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**The mathematical model of calculation carrying capacity of reinforced concrete support of overhead transmission line / B. Palagushkin, Y. Demin, S. Reutov, S. Ivashkin, V. Manusov, A. Kuznetsov, A. Seleznev // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 54-57.**

Describes the mathematical model of calculation carrying capacity of reinforced concrete support of overhead transmission line based on computer algorithm of recognition images of output situations with self-education.

**Key words:** corrosion of reinforcement, operating time, mathematical model, block diagram of carrying capacity estimation.

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**The substantiation of tugboat's propulsion plant parameters / S. Kotkov // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 57-58.**

Substantiates parameters of propulsion plant of tugboats operating in eastern river basins.

**Key words:** tugboat, ship propulsion plant, power, effectiveness.

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**About reasonability of using opposite cathodic protection from corrosion of grounding devices in river ports / B. Palagushkin, Y. Demin, V. Manusov, A. Kuznetsov, S. Reutov, S. Ivashkin, A. Seleznev // River transport (XXI<sup>st</sup> century). 2019. – № 3 (91) – p. 58-61.**

Analyses aggressive conditions for river ports' elements. Describes using passive and active methods of protection. Shows the example of calculation parameters.

**Key words:** cathodic protection, electrical drainage, river ports.

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