ANNOTATIONS
of science works published in professional magazine
«River transport (XXIst century)» 1(113)'2025

Modern conditions and problems of navigation on the Anadyr river / D. Shlol'niy, P. Golovlev, A. Sakharov, E. Bakhareva, V. Semakov // River transport (XXIst century), 2025. – № 1 (113). – p. 23-27.

Describes current state and conditions of navigation on the Anadyr river, which was included in the Register of waterways in 2023, from the point of view of the water regime, channel processes and availability of hydrological data.

Key words: the Anadyr river, water regime, riverbed processes, hydrological data, navigation, guaranteed track dimensions.

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The substantiation of necessity of differentiating approaches to vessels of mixed «river–sea» and coastal navigation // M. Churin, V. Kashina, Y. Bazhankin // River transport (XXIst century), 2025. – № 1 (113). – p. 28-32.

Substantiates necessity to change principles of classification of ships reclassified from river to mixed «sea–river» navigation.

Key words: ship, classification, mixed navigation.

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Microfibre gas diffusion layers for fuel cells of ship's power plants / I. Rozov, S. Lopatin, D. Baranov, A. Zagoruyko, S. Titov, O. Spirenkova, G. Yur // River transport (XXIst century), 2025. – № 1 (113). – p. 34-37.

Describes the results of the authours' research for development new materials for gas diffusion layers used in fuel cells in order to improve their characteristics and obtain operational advantages for more environmentally friendly and efficient energy supply of marine and river fleet.

Key words: ship's power plant, fuel cell, gas diffusion layer, effectiveness, environmental friendliness.

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The analysis of exploitation features of reinforced concrete culvert structures in salt water conditions (on the example of Manzherokskoye lake) / D. Kupriyanov, D. Efremenko, T.Pilipenko // River transport (XXIst century), 2025. – № 1 (113). – p. 37-38.

Researches features of exploitation of reinforced concrete culvert structure on Manzherokskoye lake for the purpose of estimation of object's efficiency.

Key words: culvert structure, exploitation features, aggressive environment, efficiency, Manzherokskoye lake .

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About using through structures for regulation river flow when creating the Unified trans-Ural deepwater transport system / V. Shamova, E. Chernyaev // River transport (XXIst century), 2025. – № 1 (113). – p. 39-41.

In context of creating continuous waterway from Europe to Asia – the Unified trans-Ural deepwater transport system – analyzes rational location of route's key section (where upper of the river Iset' and its inflow the river Reshetka get as closely as possible to the river Chusovaya) and possibility of using through hydraulic structures to regulate river flow in order to increase guaranteed depths.

Key words: through hydraulic structures, trans-Ural waterway, impenetrable semi-dam, through semi-dam.

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The author's approach for creating mathematical model to solve problems while planning processes in shipbuilding / A. Antonova, P. Rubleva // River transport (XXIst century), 2025. – № 1 (113). – p. 42-45.

Describes the author's mathematical model with linear programming based on concept of continuous time intervals to solve problems while planning processes in shipbuilding – searching optimal variants of production and assembly operations in multi-stage project implementation system with all restrictions.

Key words: shipbuilding, planning, mathematical model, production process, information flow.

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Digitalization tasks of dispatching vessel traffic control on inland waterways of Russia (on the example of the Volga basin) / A. Bazylev, V. Plushaev, A. Turkin // River transport (XXIst century), 2025. – № 1 (113). – p. 45-48.

Substantiates possibility of using networks of onshore and shipboard automatic identification stations and Internet to automate procedures of receiving and transmitting, entering and processing information necessary to ensure safe navigation on inland waterways. Describes suggested structure of information network of Volga basin administration.

Key words: dispatch control, information network, automatic identification system, digital communication channels.

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The analysis of dependence between ship crew members' working capacity and various meteoro-logical parameters / S. Kozik, I. Obodkov // River transport (XXIst century), 2025. – № 1 (113). – p. 48-51.

Describes the results of the author's research of dependence between working capacity of 12 members of container ship crew's operated on St. Petersburg–Baltiysk route for 132 days and various meteorological parameters and their changes – temperature, pressure, humidity.

Key words: «human factor», working capacity, weather dependence, meteorological parameters.

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Restoration of cast iron parts by using method of plasma spraying / Y. Loparev, A. Kuzmin, S. Baranov // River transport (XXIst century), 2025. – № 1 (113). – p. 51-53.

Describes the results of authors' research of possibility of restoring worn surfaces of cast iron parts of grades SCH 20-40 GOST 1412-85 by using method of plasma spraying; the analysis of influence of regime parameters and individual technological factors on adhesion strength and porosity of examples' layer from materials with various compositions.

Key words: wear, part, plasma spraying, adhesion strength, coating porosity.

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The relevance of plastic waste recycling in order to obtain pyrolysis fuel as the basis of low-sulfur diesel fuel for marine power plants / S. Istomin, V. Gusakov, B. Lebedev, O. Lebedev, A. Tolmachev // River transport (XXIst century), 2025. – № 1 (113). – p. 53-55.

Describes the problem of environmental pollution by plastic waste. As a solution offers a promising method of recycling these wastes by using pyrolysis, which can provide various types of fuel.

Key words: plastic, waste, pollution, pyrolysis, fuel.

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