

The estimation of effectiveness to increase chamber length of operating lock to augment its throughput / P. Garibin, E. Ol'khovik, I. Rastorguev, A. Fedyashov // River transport (XXIst century). 2022. – № 2 (102). – p. 25-30.

Describes the question about increasing locks' throughput on Volgo-Baltic waterway and in Volgo-Kamskiy basin to provide heavy-duty fleet movement.

Key words: large-capacity fleet, shipping lock, throughput.

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Kolpashevsky rifts in Kanerovsky fork on Ob river: deformations, forecast estimations and regulation of the riverbed / R. Chalov, A. Zavadskiy, D. Botavin, I. Krylenko, N. Mikhaylova, S. Pavlushkin, A. Kurakova, G. Golubtsov, V. Semakov // River transport (XXIst century). 2022. – № 2 (102). – p. 31-36.

Analyses natural reshaping of riverbed of Ob River on Kolpashevsky rifts section, which led to a deterioration of local navigation conditions. Gives forward-looking estimates, justifies recommendations for dredging.

Key words: Ob river, reshaping of riverbed, dredging, shipping.

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Improvement of parameters of interaction between inland water and overland transport during transfer of goods with the help of logistics principles / E. Zhendareva, E. Kadnikova, A. Gyunter, V. Popov, A. Novakov // River transport (XXIst century). 2022. – № 2 (102). – p. 37-40.

Describes characteristics of regional transport system in Ob-Irtysh basin. Indicates problems and prospects of organization of multimodal transportation on the basis of river ports. Analyses system of multimodal transport hub, defines comprehensive indicator for evaluating effectiveness of its work.

Key words: river transport, river port, multimodal transportation, multimodal transport hub, vehicle downtime.

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Dust suppressing hopper devices for grapple cranes and reloaders / N. Otdelkin, A. Slyusarev, E. Adamov // River transport (XXIst century). 2022. – № 2 (102). – p. 42-45.

Describes new designs of dust-suppressing bins by creating vacuum inside bunker spaces. This can reduce or eliminate dust emissions during work of grapple mechanisms with bulk cargo without reducing efficiency of cranes and reloader.

Key words: bulk cargo, air dustiness, grapple, bunker, handling.

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Mathematical model for cargo ship's superstructure design / Y. Kochnev // River transport (XXIst century). 2022. – № 2 (102). – p. 45-48.

Describes mathematical model for desing of general location of inland and mixed (river-sea) cargo ship's superstructure. It intends for automation process to line-up superstructure's composition as a system of different types of zones association.

Key words: cargo ship's superstructure, system approach, mathematical model.

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The estimation of stress-strain state of traverse of crane for maintenance hydraulic structures / A. Yablokov, A. Devin, V. Shutov // River transport (XXIst century). 2022. – № 2 (102). – p. 49-53.

Makes analyses of stress-strain state of crane's traverse with taking into account additional loads based on strenght calculation for allowable stree and finite element method. Suggests calculation scheme, solid-state deformed model.

Key words: traverse, stress-strain state, finite element method, modelling.

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A variant of evidence for L. Euler's theorem about position of waterline intersection axis at vessel's infinitesimal equal-volume inclination / P. Bimberekov // River transport (XXIst century). 2022. – № 2 (102). – p. 54-56.

Describes methods of evidence for L. Euler's theorem about position of waterline intersection axis at vessel's infinitesimal equal-volume inclination. Shows a variant of evidence for this theorem in currently generally accepted coordinate system of vessel with initial assumption of arbitrary position of inclination axis in transverse and longitudinal inclination.

Key words: equal-volume inclinations, position of inclination axis, longitudinal and transverse inclinations of vessel.

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The research of ship diesel motor oil's physical-chemical characteristics which change during exploitation / V. Zhukov, V. Igonin, Y. Loparev, O. Mel'nik// River transport (XXIst century). 2022. – № 2 (102). – p. 56-59.

Shows the results of research to estimate changes in dynamic of physical-chemical characteristics of motor oil during exploitation to provide its service life.

Key words: ship diesel, motor oil, physical-chemical characteristics.

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Describes characteristics of regional transport system in Ob-Irtysh basin. Indicates problems and prospects of organization of multimodal transportation on the basis of river ports. Analyses system of multimodal transport hub, defines comprehensive indicator for evaluating effectiveness of its work.

Key words: river transport, river port, multimodal transportation, multimodal transport hub, vehicle downtime.

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