

# Морской



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*Morskoy Vestnik*







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ИНСТИТУТ**

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# Морской Вестник



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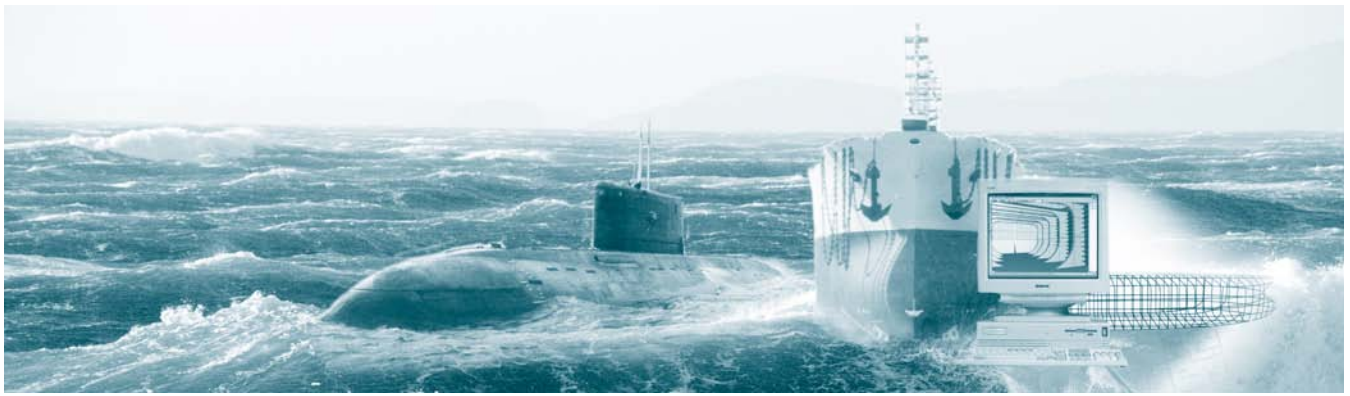
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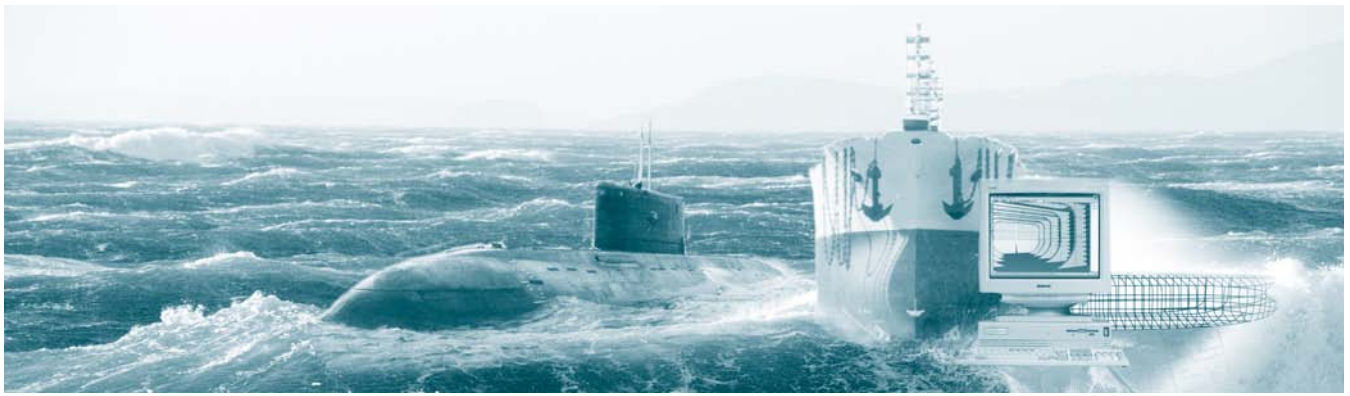
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Special features of fish meal vessels are considered. The scheme of calculating of their capacity in composition of the mathematic models of exploitation block, which were treated for optimized design's and modernization's tasks of fishing vessels, is presented. The result of optimized researches of properties of these vessels are given.

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**The Morskoy Vestnik magazine is entered on the list of the leading scientific magazines and editions published in the Russian Federation where basic scientific outcomes of doctoral dissertations shall be published.**

**D.E. Tsymlyakov, D.G. Fedotov.** *Methods of calculating weights in the system of automated design of flexible guarding for amphibian air cushion vessels* ..... 88

The study is devoted to the development of the automated methods used to calculate the weight of flexible guarding on the basis of developed 3D model of geometrical surface and regression studies performed on existing amphibian air cushion vessels.

**A.N. Davidovich, Y.I. Platonov.** *On the methods used to calculate the geometrical characteristics of hull structure components for shaping with the use of numerically controlled machines* ..... 92

It is shown that all the types of sheet components of ship's hull plating can be modeled using surfaces of rotation. It is supposed to use the geometrical characteristics of standard surfaces for mastering of the technology of such components bending with the use of numerically controlled machine tools. The results have a form of simple analytical dependences which makes it possible to use the achieved dependences for the explication of the different structural components and while mastering operational modes of the automated processes of sheet components bending with the use of numerically controlled machines. Different variants of representation of compound fields of the cone being obtained according to the formulas deduced.

**A.N. Davidovich, Y.I. Platonov, S.I. Rogachev, L.M. Ryabensky.** *Development of rules and inserting amendments into the electronic original of design documentation within «AutoDesk» software* ..... 97

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**E.P. Burakovskiy, V.A. Dmitrovskiy, I.V. Yakuta.** *Design support for enhancing safety of navigation in ship collision* ..... 100

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**E.B. Karulin, M.M. Karulina.** *Numerical and physical modeling of the movement of a tanker being moored to a loading pier in case the direction of ice drift has been changed* ..... 106

The article contains results of a study showing the behavior of a ship moored at single point pier – with broken ice movement having changed its direction. The ship has been moored with the help of a mooring hawser one end of which being attached to the pier and the other one – to the mooring device installed in the forward part of ship. The ship behavior in drifting ice field is described by means of equations characterizing movements of a solid-state body and is defined by the balance between external forces (ice, hydro-, aerodynamic, mooring hawser tension, propulsor thrust) and inertial forces. Ice loads have been estimated by the method of discrete components: broken ice field was represented by a number of floating discs. Interchanging between those discs being of visco-elastic nature and sliding of on disc in relation to the other is characterized by Coulon-Moore ratio. The results of numerical modeling have been compared with the data of a similar model experiment performed in the ice model tank. The working efficiency of the developed numerical model has been shown and possibility of its use for the theoretical analysis of a moored vessel behavior in the conditions of ice drift changes.

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