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ИСТОРИЯ



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/SHIPBUILDING/

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Shipbuilding complex «Zvezda»: installation equipment

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***Tarovik O. V., Kosmin M. C.* Simulation modeling of marine transport systems operating in ice conditions in compliance with the deliveries schedule**

The article analyzes the traditional approach to the modeling of marine transport systems (MTS) based on analytical models of vessels traffic, and formulates its main drawbacks. The authors justify the conclusion about sensible use of simulation modeling for some MTS optimization. Also presented is an example of simulation modeling of MTS operating in ice conditions with observance of the deliveries schedule.

***Sazonov K. E. A. N. Krylov* about the designing of icebreakers**

The author narrates of the unpublished until 1955 manuscript of A. N. Krylov about the methodological approach to the design of powerful icebreakers, dated December 29, 1940.

***Egorov G. V., Khaustov A. V., Avtutov N. V.* A series of multipurpose pr. MPSV07 salvage-and-rescue ice ships of «Spasatel Karev» type**

Described in the article are pr. MPSV07 «Spasatel Karev»-type multipurpose salvage-and-rescue ice ships with 4 MW power plant, designed by Marine Engineering Bureau. Represented as well are their main characteristics and test results.

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***Golland V. A., Bely D. O.* Creation of designs of adaptable modular non-atomic submarines on the basis of military-and-technical cooperation**

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***Afanasyev S. N., Nefedovich A. V.* Improving the structure of the ship design specification is the way of human integration into computer-aided control systems of prospective ships**

Examined is the problem of human integration into the processes of automation of controlling the ship, its weaponry, armament and equipment from the position of improving the structure and content of the main document of technical design of the ship - its specification. The authors propose to improve the document by illustrating the whole hierarchic totality of aspects of human-machine system control automation as one of the main properties of the ship in a new independent part of specification. Its structure and contents depict the realization of appropriate requirements of tactical and technical task to control the ship, its weaponry, armament and equipment, as well as the requirements of ergonomic provision of the ship fighting and technical equipment maintenance and control processes.

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Scientific and Production Association «Vint»: results of the year

Buryan Yu. A., Polyakov S. N., Galuza Yu. F. Vibroinsulating support with hydraulic inertial motion converter on the basis of rubber-cord casing

The authors disclose the principles of construction and evaluate vibroinsulating properties of the support consisting rubber-metal shock-absorber and hydraulic inertial motion converter on the basis of rubber-cord casing.

Vlasov A. B., Buyev S. A. Thermographic testing of ship cable exposed to fire

Possible expansion of flame via cable routing is one of the main fire causes on the ship. Study of the process of fire development via cable routing and definition of possible consequences can be attained by means of quantitative thermography. The advantage of this method is possibility to view thermal processes and to define temperature in any point of observation. Adduced are the results of testing in case of exposure to fire of horizontal cable routing through a partition (simulation of ship bulkhead).

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Teplyakov M. V. On the simulation when solving problems associated with searching engineering solutions of modern current leads design

The author offers directions of modeling of individual components and the current lead in general. Also he tries to justify the complexity of mathematical description of the current lead as a complex device in which in conjunction with respect to ensuring operational parameters are structural elements with manufacturing techniques.

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Gavrilyuk L. P., Komok A. I. Fundamental technology and ship complexes synchronization error estimate for aircraft-carriers

Synchronization of ship complexes is necessary to provide coordinate systems parallelism of antennas, sighting and television instruments and navigation complex devices with regard to a ship coordinate system. The authors examine modern instrumental methods of ship complexes coordination with error estimate without aircraft carrier going out to sea.

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Kolesnik A. M., Ryabenky L. M. Simulation of technological process of joining of submarine vehicles' inner hull blocks and determination of permissible amplitudes of their middle sur-faces mismatching

Using finite elements analysis ANSYS software the authors managed to simulate technological process of joining inner hull blocks of submarine vehicles. Also developed is methodology allowing to estimate strained-stressed state of joined sections (blocks), to determine their permissible amplitudes of initial ellipticity, as well as to approach the question of optimal location, amount and power of jacks to be used depending on the versions of mutual layout of inner hull elements to be joined.

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HISTORY OF SHIPBUILDING AND FLEET

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Grebenschikova G. A. Ships of 74- and 110-gun ranks in the Russian Navy in the late 18th – early 19th century

The author narrates of the construction of 74- and 110-gun ships in the Russian Navy in the late 18th – early 19th century and proposes its tactical and technical elements as well as reviews of contemporaries.