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ИСТОРИЯ



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/SHIPBUILDING/

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The Secretary of the Security Council of Russia Nikolai Patrushev visited JSC SSTC

AT SHIPBUILDING YARDS

NAVAL SHIPBUILDING

A. V. Krasilnikov. Structural and technological features and principle technology of assembly and installation of launching devices of small-size underwater weapon

The article is devoted to description of structural and technological features of launching devices of small-size underwater weapon and influence of these features on technology of their assembly and installation on underwater carriers.

Keywords: underwater carrier, small-size underwater weapon, launching device, production, assembly, installation.

SHIP POWER PLANTS

D. L. Zverev, O. B. Samoilov, O. A. Morozov, A. A. Zakharychev, V. Yu. Silaev, P. B. Matyash, A. Yu. Vishnev, M. M. Kashka, O. E. Darbinyan. The Cores of Operating Nuclear Icebreakers

The article presents the history of development and operation experience of the serial 14-10-3M core of operating nuclear icebreakers. The conceptual and main technical solutions, as well as life time and ecological characteristics of this core are provided. The results of 20 years of operation of 14-10-3M-type cores (21 sets served out the stored energy) have proved high operability of advanced FAs and dispersive smooth zirconium clad fuel rods. The creation of the serial 14-10-3M core, the results of its operation showing high reliability, radiation and ecological safety, and technical and economical effectiveness make it possible to say that these cores are a significant achievement of the Russian nuclear industry, all companies, and institutes (JSC «Afrikantov OKBM,» JSC «VNIINM,» PJSC «MSZ,» NRC «Kurchatov Institute,» FSUE «Atomflot») that ensured the development, serial production, and operation of the cores.

Keywords: core, 14-10-3M, FA, fuel rod, stored energy, conceptual and technical solutions, operation, life-time and ecological characteristics, radiation and ecological safety.

N. M. Verbova, M. V. Agunov. Power active filter-compensating device with the system of regulation on a deviation

Power active filter-compensating device with the system of regulation on a deviation without any static error of regulation has been presented. Filter-Compensating Device with the system of regulation is functioning so that supports a value of mismatch between a reference setting and a value of regulated parameter equal to zero, i.e. carries out functions of tracking a reference setting. The considered technical approach makes it possible to provide full compensation of passive power components even in situations of change of harmonics structure of a load current during a work.

Keywords: power active filter-compensating device, compensation of passive power components, high harmonics, compensatory current, system of regulation on a deviation, digital algorithm.

E. F. Sultanov, T. A. Jalilov, S. S., Ismailov. The limiting of the effect of reducing the voltage and frequency of the current electric power station on the work of asynchronous electric drives.

in this article has been offered the impact of reducing the voltage and frequency of ship power plants operation of asynchronous electric drives and are given suggest the methods for limiting the reductions of voltage and frequency of the current.

Keywords: ship, power station, voltage, frequency, asynchronous synchronous generator.

A. S. Bayov. Intellectual optimization solution for ship propulsion systems.

This article reviews methods and computer-aided intellectual technology aimed to justify the optimal design of propulsion system of mixed sea-river going ships based on successive approximation method used for design of project RSD49 vessel. The author hereby proves, that selection of propulsion system is affected not only by technical factors, but also by production and exploitation factors.

Keywords: intellectual solution, successive approximation method, permanent and adaptive implementation, propulsion systems with fixed/controlled pitch propellers.

SHIPBUILDING ORGANIZATION AND TECHNOLOGY

N. I. Gerasimov, I. V. Grachev, V. A. Zhukov. Force interaction between roller and guide when moving heavy-weight assembly.

This article reviews roller-guide force interaction mechanism which leads to plastic deformation. The author examines mechanism of plastic deformation of guides, explains functional dependencies between maximum permitted load on the roller, mechanical properties of doubling plates, roller radius, critical width of contact pad and thickness of the guide. Experimental surveys with a high degree of credibility confirmed correctness of theoretical dependencies and calculations purposed to justify selection of contact load-carrying elements.

Keywords: plastic deformation, rollers, force interaction, motion of heavy-weight assemblies, maximum permissible load.

M. A. Dolmatov, A. A. Kuznetsov. Experience and prospects for creation of computer training programs on exploitation and maintenance of special-purposed test benches and technological equipment.

This article analyzes experience and reviews prospects for creation of computer training programs on exploitation and maintenance of special test-bench and technological equipment.

Keywords: shipbuilding industry, computer training programs, equipment exploitation and maintenance, stand equipment, special technological equipment

SHIPBOARD EQUIPMENT

E. A. Kulichkova, G. A. Tyumentsev, V. A. Kozlov. Prospects for application of direct laser growing method for reduction of labor intensity of valves and fittings of shipboard pipelines.

This article reviews new fabrication procedures of various spare parts, survey works and justification of direct energy deposition for production of complex parts. Application prospects of the above procedure have been provided in frames of repair and recovery of shipboard equipment, R&D works to reduce production time of pilot samples or operative approbation of various structure types.

Keywords: shipboard valves and fittings, vessel, labor intensity, new method, application prospects.

A. A. Bokatova, V. V. Veselkov. Checking technical condition of hulls of NAVY support vessels.

This article considers issues of supporting technical condition of NAVY support vessels over a service life of the same and with minimal costs. Also, possibility of prolongation of standard service life of hulls is considered in this article.

Keywords: technical condition, NAVY support vessels, standart, service.

FLEET EXPLOITATION

D. O. Semenov, B. A. Luskin, P. A. Klochkov. Particular aspects of group control principles implementation in marine robotic systems.

This article reviews particular aspects of methodological approach towards design of АНПА control systems. The authors narrate about input data used for design of АНПА systems and give examples of definition of system appearance and configuration. Theoretical justification of АНПА group control principle has been provided.

Keywords: unmanned submersible vehicle, АНПА, control system, group control, decentralization of control procedure, АНПА group.

SHIPBUILDING MATERIALS

V. Yu. Kirpichnikov, A. I. Syatkovsky, Yu. F. Shlemov. High-effective tools for low-frequency shock-absorbing using flexible element made from polymer film.

This article briefly generalizes surveys conducted in FSUE «Krylov Shipbuilding Research Institute» on reduction of low-frequency vibration of ship structures using high-effective and small-sized shock-absorbing tools. Enhanced performance of the above equipment was achieved due to usage of flexible element made from elastic polymeric film based on polyvinyl acetate.

Keywords: ship structures, small-sized tools for reduction of low-frequency vibration, polymeric film.

ECONOMY AND FINANCE

A. M. Khodzhaeva. Basic points for building up the strategy to control intellectual property at enterprises.

The author hereby analyzes factors affecting development of strategy for control of intellectual property at domestic enterprises and gives practical recommendations on its development for increase of competitiveness level.

Keywords: intellectual property control strategy, innovation, intellectual activity results, intellectual property assets, non-material assets, strategic control

SHIPYARD DESIGN AND RETOOLING

S. Yu. Pankratova, V. I. Pozdnyakov. Regulatory system for water usage in scope of construction, reconstruction and exploitation of ship lifting/launching facilities at shipyards and dockyards.

This article reviews regulatory base in scope of water usage and document packages required for exploitation, design, reconstruction and ecological examination of ship lifting facilities at shipyards.

Keywords: yards, ship lifting facilities, water usage, expertise.

INFORMATION SECTION

V. I. Lyubimov. VSUWT shipbuilding faculty – 80 years anniversary! V. N. Polovinkin, S. V. Fedulov, B. A. Barbanel. Concept of shipyards arrangement in the USSR and their activity during the Great Patriotic War. Subsidies for the construction of targetonage and fishing vessels. Exhibitions and conferences in 2020. Foreign information. . Congratulations!

HISTORY OF SHIPBUILDING AND FLEET

M. I. Pridannikov. Guard boats of Revensky yard.

The author hereby tracks construction history of guard boats at K.O. Revensky yard for Black Sea Fleet during First World War. The article contains their specifications and general layout diagrams.

Keywords: history of fleet, guard boats, history of shipbuilding, boat design.

V. V. Yarovoy. Another glance on destroyer leader «Tashkent».

The author narrates about construction of destroyer leader «Tashkent» in the territory of Italy, 1937-1939 as per the order of USSR. The article indicates ship's specifications, outcome of its trials in Italy, subsequent service in Black sea fleet and participation in the Great Patriotic War, 1941–1945.

Keywords: history of shipbuilding, history of fleet, ship design, destroyer leader «Tashkent»

I. Ya. Baskakov. First domestic passenger vessel «Typhoon» with automatically controlled hydrofoils.

This article reviews development of technical project, design and subsequent exploitation of first domestic passenger hydrofoil boat with automatically controlled deep-sunk hydrofoils by CDB «Almaz» in 1996, directed by chief designer V.M. Burlakov.

Keywords: history of shipbuilding, hydrofoil boats, automatically controlled hydrofoil