

ORGANIZATION OF ENERGY AND INFORMATION INTERACTION OF THE COASTAL CONTROL POST WITH THE HYBRID UNDERWATER VEHICLE DURING THE MAINTENANCE OF UNDERWATER MINING COMPLEXES

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Relevance. The creation of underwater stations and resident vehicles for use in underwater conditions, as well as technologies that provide the full range of measures necessary for the placement, maintenance, bringing, reception and release of an underwater vehicle is a new direction in underwater robotics. When developing such systems, it is necessary to solve a number of tasks, some of which are traditional, for example, the tasks of approaching an underwater vehicle to the station and underwater docking. Other tasks are new, such as providing contactless battery charging and high-speed contactless information exchange between the station and the device, as well as organizing high-speed communication of the station with a remote coastal control post. The domestic experience of research on such tasks is limited to solving particular issues. The representation of the energy and information interaction system of an underwater service station, an uninhabited underwater vehicle and a coastal control post in the form of a single complete complex is unknown from the literature. For this reason, mention task is relevant, the solution of which will ultimately improve the efficiency of hydrocarbon production.

Results. The present functional diagram, which combines the channels of energy and information interaction into a single complex. The principle of constructive implementation of the basic elements is defined. Accepted research methods include interrelated theoretical analysis, mathematical modeling, and experimental research.

Keywords: underwater docking, hybrid underwater vehicle, underwater service station, local area network, coastal control post, contactless power transmission, contactless information exchange.

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