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RESEARCH OF ALGORITHMS OF AUV NETWORK ORGANIZATION USING THE SIMULATION SOFTWARE

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Development of a network of autonomous underwater vehicles (AUV) is a complex multifactorial task. Solution of this problem requires the fulfillment of a number of stringent requirements, including, requirements for fault tolerance, efficiency of information exchanges, energy efficiency, etc. As a result, it is very important to use simulation for test proposed solutions of AUV network design. The purpose of current research is development and test a software environment for designing AUV networks. The simulation environment is implemented within the framework of an object-oriented approach in Python. The main results obtained include the established principles for implementing a software environment for simulation of AUV networks. The layout of the hardware and software for underwater communication network developed in Concern CSRI Elektropribor is the basis of the developed simulation model. The results of testing the software are presented using the example of solving the problem of ensuring the efficiency of information exchanges. The developed software environment makes it possible to increase the efficiency of AUV network development.

Keywords: software environment, simulation modeling, groups of underwater vehicles, AUV, information exchange scheduling.

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