

THE INVESTIGATION OF MODES POWER SYSTEM SUPPLY FOR AUTONOMOUS
UNMANNED UNDERWATER VEHICLE WITH A CONTACTLESS POWER
TRANSMISSION

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ABSTRACT

Noncontact power supply for autonomous underwater vehicle (AUV) has more advantages compared with other technologies, namely its independence of the environment, effective power transfer, minor influence on AUV motion etc. However this method requires additional electric power conversion as well as siting converters in small-scale hermetically sealed containers. This results in such problems as control of converter electric potential and support of permissible thermal conditions for convertor load elements, the device being small. To solve these problems we applied a symbolic model adequately covering real processes in power transfer system. The laboratory model of a noncontact power transfer system allowed us to conduct the required investigation, carry out experiments and optimize the process of development of power supply systems for different-purpose autonomous underwater vehicles.

Key words: noncontact electric energy transfer, underwater vehicle, autonomous inverter, mathematical modeling, power keys control.

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