

DEVELOPMENT AND FIELD TRIALS OF SMALL TELECOMMAND SHIP

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ABSTRACT

Maritime unmanned systems are of increasing importance for science and defense. Unmanned surface vehicles have already been used worldwide as seaborne targets, platforms for mine countermeasure missions and long term environmental monitoring. At the same time there exist a number of mobile platforms assigned for offshore survey and marine geodesy which consist of a single vehicle. The Special Research Bureau for Automation of Marine Research has been developing small remotely operated ships since 2001. The Bureau's early studies were on possible task-oriented sailing of small self propelled marine objects at sea. The current study objective is to decide whether it is necessary to explore shallow waters and is possible to install a multibeam sonar on a small remotely operated ship. The small remotely operated ship is a compact vessel outfitted with propulsion and control systems which permit it to carry out payload. Its characteristics as well roll, pitch and yaw rates were examined. In the course of testing the 3.5m length hull vehicle successfully demonstrated the ability to operate against waves up to 0.8m keeping roll and pitch rates acceptable for hydrographic data collection by the most commercially available multibeam echosounders.

Keywords: unmanned surface vehicle; shallow water survey; multibeam bathymetry.

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