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LATEST TRENDS IN THE MONITORING OF SHIPS'S HULL UNDERWATER PART AND ANALYSIS OF ITS EFFECTIVENESS

A.URBAHS, K. CARJOVA, P. VULANS, R. STRAUME

Riga Technical University
Institute of Aeronautics
1 Kalķu str., LV-1658, Riga, Latvia,
e-mail: kristine.carjova@inbox.lv

ABSTRACT

Ship operation is not possible without regular maintenance, inspection and certification, established by international and domestic law, where one of the main goals is an effective operation of a ship. To achieve this, it is important to reduce time and costs involved in carrying out the surveys. This paper explores the law under which it's required for ship to have inspection of underwater part; identifies problems of ship's hull underwater part; analyze latest trends in ship's hull underwater part monitoring and the analysis of its effectiveness; aim is to make work based conclusions of the implementation of remotely operated vehicle in the examination of underwater part of the hull.

[Keywords: unmanned underwater vehicle, monitoring of ship's hull, surveys of ship's underwater part.]

GENERAL

The main goal of this paper is to explore effectiveness of the implementation of unmanned underwater vehicle in the examination of underwater part of the hull. Paper examines the main requirements of IMO and Classification Societies for inspection of ship's underwater part. These surveys are usually carried out during dry docking or in water.

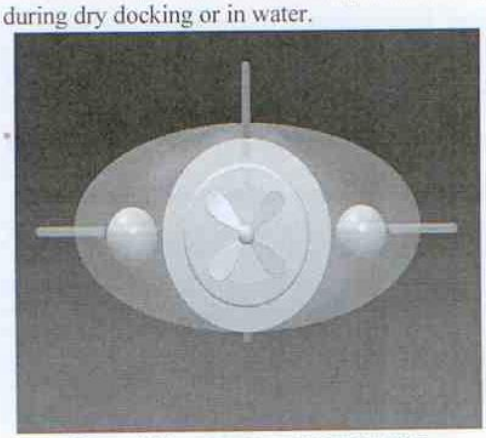

FIGURE 1. MODEL OF UNDERWATER VEHICLE

There are many types of underwater vehicle, including remotely operated vehicle, which authors are modeling from virtual vehicle to prototype model (see Fig. 1). The paper also deals with advantages and disadvantages of such vehicle construction, form and equipment. The quality and amount of gained data are the most important details for complete evaluation of condition of ship's hull. The video recorded by underwater vehicle and visual assessment can provide large amount of necessary data. The authors of the paper examine alternative way of carrying out surveys using remotely operated vehicle. The application of remotely operated vehicle in survey of ship's hull underwater part is relatively new technology.