عنوان مقاله:

Hybrid ROV Based method for Hall Inspection, Monitoring and Preventive Maintenance

محل انتشار:

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خلاصه مقاله:

Hull and harbor infrastructure inspections and monitoring are frequently performed manually and involve high level ofrisk and human and monetary resources. In any kind of threat and resource constrained environment, this involvesunacceptable levels of risk and expenses .A major effort is always required to extend the time between the dry dockingof the ships so that a large amount of money and manpower will be saved this way. At the present, it is essential that themajor shipping lines have access to a remotely operated vehicle (ROV) to conduct underwater inspection of existingship hulls. Simply, the ROV eliminates the need for diver operation as well as it postpones the dry docking by gatheringinformation from the hull surface and body. This paper addresses the evolving subsea especially designed hybridacoustic-electromagnetic flux leakage searching arm as a part of associated maintenance arrangement of a remotelyoperated vehicle incorporating the expert system techniques in the diagnostic method of subsea ship hulls based on theconcept of both Vibration spectrum and Ampere's law and methods of probable damages without any physicaldestruction by testing the suspected section which is already subjected to acoustic sonic vibration and alternatingcurrent flow with selected frequencies. Using these methods, the soundness of the hull surface, body and absence ofcracks and imperfections due to corrosion may be ensured in the data receivers outside the water. The ROV may also beequipped on its arm with ultrasonic test probe, paint thickness measures, hull plate thickness measure, and other specificequipment which may be helpful to testing and maintenance of the hull.

کلمات کلیدی:

Hull inspection, emfl method of NDT, Acoustic sonic vibration , Preventive maintenance ,Expert system

لینک ثابت مقاله در پایگاه سیویلیکا: