Crawling rov for irregular terrain seafloor discovery

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Abstract

Underwater Remotely Operated Vehicle (ROVs) have a significant support role and play a dominant underwater robotics which has very high demand in marine and offshore field. A bottom founded-ROV give an additional value from normal ROV to expand research and survey on seafloors. Known as UniKL Amphibious Research Crawler I (UARC I) is designed to operate underwater and in the surface zone up to a depth of 15 meters and it equipped with the video camera. This vehicle is controlled by a controlled cable from the beach or boat up to the distance of 15 meters for inspection and seafloor discovery. This vehicle is specially designed to withstand with the Malaysia irregular terrain seafloor. The simulations of the dynamic motion for climbing over a hump and the slip characteristics shows the vehicle can work very well, and it reveals the physics of the crawler-type ROV's motion. Capable of carrying the load up to 15 kg with the body weight of 13.5 kg it can allows the enhancement with the robotic grips or additional accessories in the future. It is good start to fabricating the light weight crawling ROV with effective cost and can works at any asymmetrical terrain and sand.

keywords

Crawling rov Irregular terrain Light weight