

## عنوان مقاله:

Design, Modeling and Control of an Underwater Cable-Robot for Inspectional Operation of Underwater Structures

## محل انتشار:

سی امین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران (سال: 1401)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

In this paper a new robotic manipulator is designed and modeled by which inspectional and operational tasks of underwater operations can be fulfilled. Some under water columns of the ocean structures needs to be inspected periodically and the defects of them should be improved in order to prevent the structure fails. This operation is extremely dangerous for the divers while its financial costs is also extremely considerable. In order to automatize the mentioned operation a new robot is designed based on spatial cable robots on which a wrist manipulator is mounted. Any inspectional or operational tool can be installed on the wrist to accomplish the required missions. Cable robot is opted to provide a wide range of workspace, and the wrist realizes three rotational motion of the tool in the presence of the drag forces of the water. Kinematic and dynamic model of the designed robot is extracted and a simple controller is implemented on the robot based on CTM control. It is shown by the aid of a series of simulation scenarios .that the proposed robot can successfully manage the desired operations under the water

## کلمات کلیدی:

Cable-Suspended robot, Spherical wrist, Underwater robot, CTM controller

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1468533>

