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MOTION SYSTEMS OF RESEARCH LOW-OBSERVABLE UNDERWATER FISH-LIKE ROBOTS. REVIEW

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One of the most important tasks in marine robotics is a barely noticeable observation of underwater objects. Solving these problems is possible by using a bioinspired approach. The paper considers a variety of designs of underwater robot motion systems for covert underwater observation. It's said that robots must be morphologically and behaviorally act like fauna objects of most water areas. Fish is used as the model object to suit these criteria. We emphasized the following essential features of fish morphology and physiology: fins functions, types of fish swimming, mechanisms for regulating the density of the fish body. It assumes the use of a kinematic scheme where the locomotor wave covers slightly less than half the length of the robot body. The most used kinematic schemas and hydrostatic systems of fish-like robots were found out and analyzed. Also, the lack of proper knowledge of fish-like robots' motion systems is mentioned.

Keywords: robotics, bioinspired approach, fishes, fish-like robots, locomotion wave, fin, swim bladder.

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