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BIO-INSPIRED SOFT ROBOT FOR PLANETARY EXPLORATION

Abstract

Soft robotics has been a new area of robotics. It has the potential to perform certain activities which could not be achieved by conventional robots. Mostly it is made of highly compliant material. There has been a trend to implement soft robots for space exploration. This project is about bio-inspired soft robot for mars exploration. This soft robot is made of smart compliant materials which can take certain shape or actuate as per the predefined structure. Our robot is focused on such properties to have properly balanced locomotion with carrying a certain payload. The prototype is made in such a way thus it would require a limited range of power supply. It has the capacity to go against gravity as well. The robot has been tested under some circumstances which have similarities with some planetary simulations. This kind of robot has less number of electronics components and less complexity to dealwith. It has a better possibilityof longevity and it's easy to handle the particular task which can be performed by the soft robot. This soft robot could help to explore the surface and monitor certain parameter for planetary surface exploration. As it's designed to carry some payload, it could also carry required luggage during an unusual environment.