



ISTITUTO ITALIANO
DI TECNOLOGIA

TITLE

Smart fluid robotic systems

INVENTORS

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DESCRIPTION

Smart Fluid Systems (SFS) are devices based on organic or inorganic liquids, contained inside a volume by surface tension or by a confining membrane, which protects them from a harsh planetary environment. In a biologically inspired vision, they may be able of changing shape according to a specific command or by means of a fully passive adaptive system, and provide a solution for innovative.

The SFS device comprises the following sub-systems:
means for mobility and guidance control from a mothership;
means for in-situ energy harvesting/generation, storage and distribution through the liquid medium;
means for physical quantity measurements and
means for data storage, computation and transmission to a mothership

APPLICATIONS

Exploration of space, planetary or other extreme environments

KEYWORDS

Liquid robotics, smart fluid systems, colloidal robotics, autonomous robotic systems

BIBLIOGRAPHIC DATA

Liquid engineered systems for planetary exploration

Application Number US62/450961

Priority Date January 26, 2017

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