

WPI Team Salamander

Description

We address *robotic inspection and mapping tasks* of residential buildings for identifying issues with the thermal envelope of the building insulation. The Phase 1 system consists of an innovative design for a salamander robot. This robot can navigate in narrow and intricate spaces, and it is equipped with sensors to map both the structure and the thermal characteristics of a building. The proposed robotic solution combines multiple features that have not been demonstrated before, such as the ability to navigate complex 3-D environments despite its small cross-sectional area, light weight, and low cost. As compared to existing field robots, which utilize larger and heavier tracked vehicles, our proposed mobile robot is inspired by the locomotion efficiency and maneuverability of the salamander.

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