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# BIOMEDICAL EMBEDDED SYSTEM FOR MONITORING TEMPERATURE IN SPACESUITS DURING EXTRAVEHICULAR ACTIVITIES IN ANALOG MISSIONS FOR MARS AND THE MOON

**Abstract**

Ensuring the safety and health of astronauts during extravehicular activities (EVAs) on the Moon and Mars is a critical challenge in space exploration. The development of an embedded prototype designed to monitor astronauts' upper body temperature in real time aims to address the unique environmental conditions and physiological demands of EVAs by providing temperature data, which is crucial to prevent heat stress and hypothermia. The prototype integrates a network of temperature sensors strategically placed inside the astronaut's suit, connected to an embedded board that records and transmits the data to an embedded wristband as to mission control. Future work will focus on simulated lunar and Martian environments such as the Mars Desert Research Station (MDRS) - Utah, where it was preliminarily approved.