

'Space suits' to warn of depression in astronauts

Scientists are developing 'happy space suits' that can monitor symptoms of depression in astronauts, and provide real time feedback to improve the atmosphere of the spacecraft as well as boost the occupants' mood.

Depression is a major problem in space, as astronauts can be adversely affected by factors like insufficient exercise, excessive exposure to light and lack of sleep, according to researchers from Florida Polytechnic University (FPU) in the U.S.

The technology, called Smart Sensory Skin (S3), will detect emotional and physical deficiencies in astronauts through wireless sensors that will then send an immediate response to improve the "atmosphere", and adjust the astronauts' environment to fit their individual needs.

Oxygen levels

The adjustments include changes in temperature, light exposure, light colour, and oxygen levels.

"It's vital for astronauts to be mentally healthy during missions and right now there's no active, real-time solution to help them when they feel stressed or anxious," said Arman Sargolzaei, professor at FPU.

The eventual product will incorporate the wireless sensors into astronaut clothing, so that physicians on Earth can also monitor the person's pulse rate, blood pressure and joint angles.

Similar technology already exists, but it is cumbersome, often uncomfortable, and data collection is passive. This means the data must be reviewed by a physician and the user can only make appropriate actions after recommendation.

The new active technology would also be made ergonomic to reduce distractions and increase mission effectiveness.

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