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IMPROVED LEAK-PROOF HELMET FOR SPACE EXPLORERS

Abstract

Suppose you are an astronaut on a spacewalk. You are suspended to a spacecraft traveling over 17,000 miles per hour around the Earth and surrounded by the deadly vacuum of space. The air in your helmet unexpectedly trades with fluid, and you feel a sense of drowning. Suddenly, you are gradually losing your eyesight. Many astronauts such as Chris Hadfield, Christopher Cassidy, Gene Cernan, and Luca Parmitano have experienced these “waking nightmares”. A helmet filled with fluid can be extremely critical. These episodes are often caused by a mixture of oil and soap solutions for anti-fog, water infiltration from the drinking bag, or a leak from the suit’s cooling system. This disturbance regularly results in an impaired vision. This article highlights a new implementation of technology to solve liquid leaks in a space helmet. The innovation includes an extraction pad to extract sweat or liquid that comes into contact with the helmet.