

Microgravity Evaluation of the Final Frontier Design IVA Spacesuit at the National Research Council of Canada with Project PoSSUM

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Final Frontier Design (FFD) has continued development and testing of its Intra-Vehicular Activity (IVA) space suit. A human rating program for the IVA suit has been refined, and baseline requirements for the suit have been developed and reviewed. Multiple hardware elements of the suit and associated system have been developed and refined.

In October 2017, Integrated Spaceflight Services (ISS) flew a series of three microgravity flights with the National Research Council (NRC) of Canada to evaluate the FFD IVA space suit in microgravity. These tests were the first pressurized microgravity tests of the space suit, following a series of successful unpressurized tests conducted by the NRC in November 2016. The tests also evaluated a launch seat developed by ISS as well as communications, pressurization, and biometric monitoring systems.

FFD and ISS have performed further ground based testing, including the fitting and pressurization of more than 100 Project PoSSUM graduates in the suit, refining fit and training procedures in the process. PoSSUM, an acronym for Polar Suborbital Science in the Upper Mesosphere, is a 501(c)(3) research and education program whose graduates enable aeronomy and bioastronautics research including FFD space suit evaluation. Further microgravity evaluations and post-landing testing and evaluation will be conducted in 2018.

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