

MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Microgravity Experiments from Sub-Orbital to Orbital Platforms (3)

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MIGRATION OF AN AIRCRAFT-BORNE MICRO-GRAVITY EXPERIMENT TO THE
INTERNATIONAL SPACE STATION

Abstract

We report on the progress of modifying an immiscible fluid flow experiment from an aircraft-borne apparatus to one that will be accommodated aboard the International Space Station (ISS). The ISS experiment is based upon microgravity experiment sponsored by NASA's Microgravity University, Systems Engineering Educational Discovery (SEED) program flown in April 2013 aboard the Zero-G Corporation's 727-200F aircraft. Following this successful flight a team of university undergraduates and JPL scientists and engineers, with the sponsorship of NASA's Educational Office, have worked on re-packaging the experiment inside an Ardulab/Nanorack module. The immiscible fluid flow experiment is expected to yield results relevant to water-sampling technologies that would be employed in life support. The experiment is planned to launch to ISS in 2014.