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Microgravity Experiments from Sub-Orbital to Orbital Platforms (3)

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SUBORBITAL EXPRESS - THE REAL RIDE-SHARE SOLUTION FOR SOUNDING ROCKET
MISSIONS

Abstract

It has been five years since the first SubOrbital Express (S1X) Mission on a Flight Ticket Approach has been performed. Four missions later and 30 performed scientific and technical experiments, it can be simply concluded that offering the sounding rocket platform on commercial base to customers from around the globe has become a success. Based on the MASER (MAterial Science Experiment Rocket) program by SSC with history of almost 40 years, the S1X Program was initiated to open the access to customers from all over the world.

Three full SubOrbital Express flights entirely utilizing the available payload capacity of the VSB-30 2 stage rocket vehicle. A fourth missions could be realized for the Shared Module for small, cubesat sized payloads, piggyback on the German MAPHEUS 14 mission by DLR carrying 7 experiments on its own.

This paper will present the most recent missions performed throughout 2024, the developments dedicated for realizing research under microgravity, and reduced gravity environments such as moon or mars-g. Each mission has its own challenges and requirements.

All missions provide exquisite support for scientists to being able to focus only on their science. Tailored system hardware and experiment solutions are available.