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NEW SHEPARD PAYLOAD ACCOMMODATIONS AND FLIGHT HISTORY

Abstract

Blue Origin's New Shepard launch vehicle made its first flight above the Karman Line, returning safely to Earth, in November 2015. As of this abstract in March 2019, it has conducted ten flights, including seven with research and education payloads aboard. These dozens of payloads have exercised a wide range of capabilities and interfaces, from small cubesat-form factor student payloads to large custom payloads of nearly 100 kilograms. Investigations have spanned a wide range of high-altitude and microgravity research objectives, as well as raising technology readiness levels (TRL) on diverse hardware. This talk will summarize New Shepard's payload missions to date, taking a deep dive into the user experience, including streamlined pre-flight integration processes and launch site activities designed for international participation. We will look at the alternatives available to researchers for both standardized and custom accommodations, and recent upgrades designed to simplify the scientific payload development process. Use cases for upcoming human-tended payload missions will be presented, examining the value proposition for investigator-in-the-loop flights.