**Bigelow Expandable Activity Module Project (BEAM)**

**Closeout report**
November 2020

The Bigelow Expandable Activity Module (BEAM) was originally designed for a two (2) year mission to ISS. In 2018, BEAM’s life was extended to 2028 or the end if ISS life. BEAM was originally developed as a technology development article but today is being utilized as an ISS stowage module supporting up to 3,400 pounds of ISS cargo. Instrumentation on board continue to measure internal and external impacts, on-orbit temperatures of the inner shell and aft bulkhead, and radiation measurements. In addition, the crew periodically takes microbial air and surface swabs. The data is analyzed and quarterly reports have been provided to Advanced Exploration Systems (AES), ISS, and Bigelow Aerospace.

BEAM has successfully demonstrated the design, development, certification, launch, berthing with ISS, deployment, leak check, health monitoring (radiation, thermal, impact), on-orbit operations and utilization as a stowage module of an expandable space module. Being launched in the trunk of a Falcon 9 rocket and deployed on orbit, BEAM has demonstrated the volume/mass and low initial launch volume advantages of expandable space structures. With crew-tended on-orbit demonstration, BEAM has raised the Technical Readiness Level (TRL) of expandable spacecraft structures from 7 to 9 and exceeded the performance of the original AES demonstration expectations. Although the AES BEAM contract was closed out, BEAM will continue to be sustained by ISS, utilized as a stowage module, and continue to monitor on-orbit performance data.

Reference:

“Bigelow Expandable Activity Module (BEAM) ISS Year-Three Technology Demonstration, Utilization, and Potential Future Applications”

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