

AAE SPECIAL SEMINAR

Space Shuttle Entry Flight Control System: Development and Challenges

THURSDAY OCTOBER 3RD, 2024
ARMS B071 1:30PM-2:45PM



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Abstract

Former NASA astronaut Bob Stewart will present a summary of his experiences developing the entry flight control system for the space shuttle. Beginning with the design objectives for the shuttle itself, he will discuss the problems inherent in flying a DC-9 sized airplane from a Mach 25 orbit to a landing on a hard-surfaced runway, and the required blending of a flight control system from flying a pure spacecraft to controlling a pure airplane below Mach 4.

Biography

Stewart became a NASA Astronaut in August 1979. His technical duties in the astronaut office included testing and evaluation of the entry flight control systems for STS-1 (the first Space Shuttle orbital mission), ascent abort procedures development, and classified payload coordination. He also served as support crewman for STS-4, and Ascent/Orbit CAPCOM for STS-5. He served as a mission specialist on STS-41B in 1984 and STS-51J in 1985, and has logged a total of 289 hours in space, including approximately 12 hours of EVA operations.

In 1986, while in training for his scheduled third flight to be known as 61-K, Col Stewart was selected by the Army for promotion to Brigadier General. Upon accepting this promotion General Stewart was reassigned from NASA to be the Deputy Commanding General, US Army Strategic Defense Command, in Huntsville, Alabama. In this capacity General Stewart managed research efforts in developing ballistic missile defense technology. In 1989, he was reassigned as the Director of Plans, US Space Command, Colorado Springs, CO. General Stewart retired from the Army in 1992 and currently makes his home in Huntsville, AL.