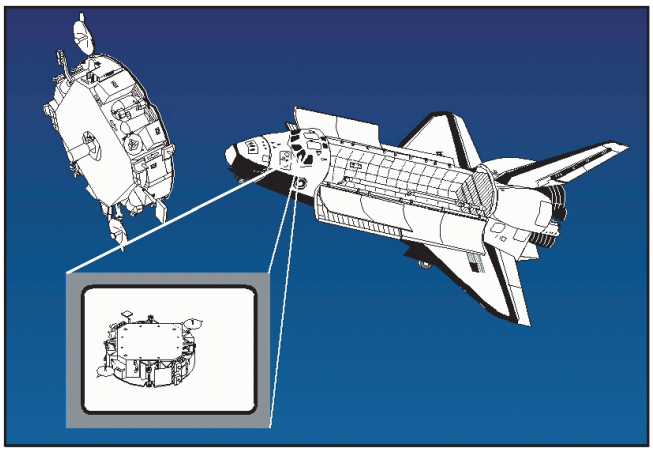
Human Factors

research and technology division

Perspective Visual Cues for Vehicular Control

Objective

To develop models to describe the human operator performing a manual control task (such as docking control) using a perspective scene. Examples of perspective scenes include out-the-window viewing, camera images, and simulator imagery.



Approach

Combine models of manual control with simplified models of perspective scene viewing and visual cue selection to determine the most effective visual cues for a particular task. Models can be directly validated and refined through simple experimental measurements.

Impact

Perspective scene content is a design variable, whether through choice of window arrangements and pilot eyepoint, actual or simulated scene markings, imaging system characteristics, or symbolic display augmentation. Perspective scene content is typically designed by trial and error, a process that is costly and only considers a small subset of potential options. The technique we are developing provides an analytical tool to develop, test, and validate perspective scene designs at the initial stages of a design process.

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