Human Factors

research and technology division

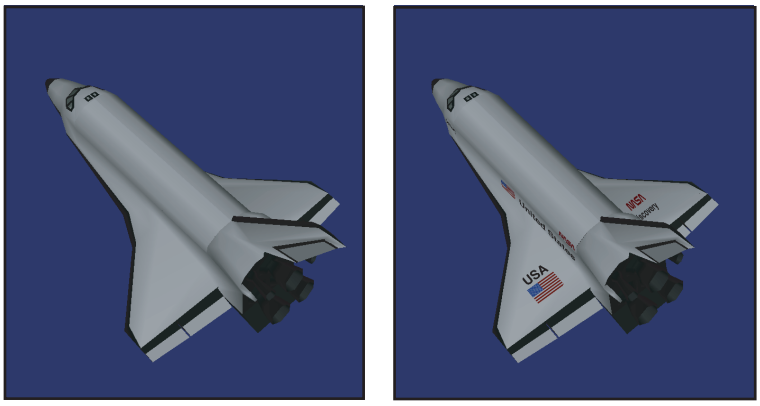
Perceptually Tuned Visual Simulation

Objective

To improve performance of real-time visual simulation for aerospace systems.

Approach

Incorporate models of human vision capabilities into graphical rendering architecture to improve apparent visual simulation performance with reduced system load.



Mixed-Resolution Stereogram

Exploit the limitations of visual sensitivities to intelligently cull aspects of the scene that need not be rendered.

Impact

Several effective graphical rendering techniques have been developed, including mixed-resolution stereo displays and spatially phase-shifted imagery.

Reduce the computational cost required to achieve a desired level of image quality and frame rate.

POC: Mary K. Kaiser, Ph.D.

URL: http://vision.arc.nasa.gov/IHH

E-mail: mkaiser@mail.arc.nasa.gov