

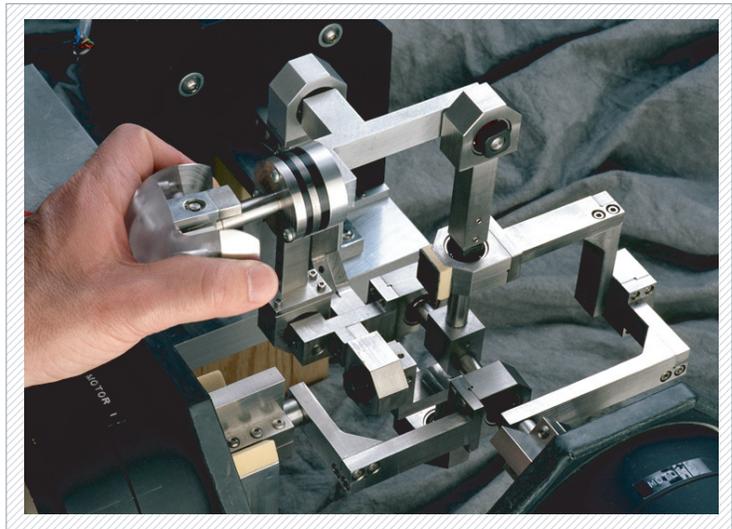


Performance in Haptic Virtual Environments with Visual Supplement□

Objective To determine human factors guidelines for effective haptic (force reflecting) manual interfaces for multisensory virtual simulator and teleoperation displays.

Approach The two major program aspects include:

1) the design and implementation of a novel, very high performance three degree of freedom (dof) force reflecting manual interface for use with our laboratory's virtual visual display as a research testbed



2) examination of human perception and manual task performance respectively, through psychophysical discrimination and manual target acquisition

Impact High-fidelity virtual environment and virtual object simulations using tuned predictive filters have allowed presentation of perceptually stable virtual objects, enabling testing of new visual-manual phenomena and measurement of the simulation fidelity requirements for several levels of manipulative precision.

Patent awarded for the three degree of freedom parallel mechanical linkage.

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