

Haptic rendering technologies using multiple field

Satoshi Hashizume

We present two new methods of rendering haptic textures that uses electrostatic field, magnetic field, acoustic field and aerodynamics. In conventional research, a single physical quantity is used to render haptic textures. In contrast, our method combines multiple fields simultaneously. While these fields have no direct interference, combining them provides benefits such as multi-resolution haptic images and synergistic effect on haptic perception. We investigated the increase in the variation of texture by comparing each single field methods. Further, we conducted user studies and quantitative measurements.

(Advisor: Yoichi Ochiai)