Steering Task

Steering law

Steering law   Accot   Zhai

Steering law

Steering task   Steering task

Steering law

Steering task   MT   10-60pixels   70-300pixels

Steering task   MT   10-50pixels   60-100pixels

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MT   Steering law

Steering task   70pixels   Steering

task   60pixels   Steering law

Steering law   Steering Task   Steering Task

Abstract

The maximum size of tunnel width for the Steering law

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In this paper, we investigated the upper limit size of path width in steering tasks. The steerng law, proposed by Accot and Zhai in 1997, has been a robust model and paradigm to study steering tasks in human-computer interaction, such as drawing and writing. The steering law has been verified with several input devices, in different scales and in locomotion. However, little attention has been paid to the upper limit size of path width in steering tasks. Accot and Zhai (1997) also reported that the law would lose its predictability power as the width exceeded certain upper bound limit on a display.

In our study, we took the linear and circular paths as steering tasks. The steering directions for the linear and circular tunnel were respectively towards right and clockwise.

Experimental results showed that in the linear steering task, there was a significant difficant difference between 10-60 pixels group and 70-300pixels group in MT vs. width plot.

In the circular steering task, the results showed that there was a significant difference between 10-50 pixels group and 60-100 pixels group in MT vs. width plot. From above analysis, MT stays constant even if the value of width changes within the range of the latter group. This indicated that the steering law will lose its predictability power as the width attains a certain size. This size is the upper limit size of the path width for steering tasks.

From the experimental results, we can conclude that the upper limit size of path

width is 70 pixels for the linear steering task and 60 pixels for the circular steering task.