先端科学技術研究科　修士論文要旨

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要旨

Autonomous vehicles enable passengers to engage in non-driving-related visual tasks, such as reading, during the ride. However, this may increase the risk of motion sickness, potentially affecting comfort and task performance. Previous studies have proposed using visual dynamic signals consistent with vestibular sensations to mitigate motion sickness based on the sensory conflict theory. However, the impact of these visual signals on task performance and comfort has not been fully explored.

This study introduces rotational visual dynamic signals through a low-intensity visual background, aiming to reduce motion sickness without compromising reading task performance or comfort.

Two participant experiments were conducted using a motion platform and a VR HMD. Objective reading speed and subjective questionnaires for motion sickness symptoms, comfort, and mental workload were evaluated. The proposed method shows its effectiveness in reading comfort improvement and mental workload reduction during the short-term Experiment 1, but the effectiveness in motion sickness mitigation during the long-term Experiment 2 requires further investigation.