



Creation of Comfortable Shifting Operation Feeling by Shifting Sound and Operating Profile in Consideration of Driving Intentions

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Background

Problem of AT vehicle with shifting operation

- : Have **fun driving** by shifting operation
- ✕ : Poor feeling of unity of a car during shifting operation

Expected to increase added value by improving shifting feeling

Purpose of the research

Focus on **driving intention** and **operation change**

Adding a **suitable shifting sound as feedback for operation**

Creation of a comfortable **shift feeling** through shifting sound

Contents

Understanding driving intention

○Classification of driving intention

- Acceleration intention
- Driving situation (Street, Highway, etc.)

○Understanding effect of driving intention

- Impression of shifting sound
- Change of operation time or operation force

Good conditions for shifting operation

○Shifting sound

- Delay time in operation
- Frequency characteristics
- Sound pressure level

○F-S characteristics of shifter



Extracting conditions for comfortable operation feeling

Verification of good conditions

○Sensory evaluation

- Driving task by driving simulator
- Evaluation using actual vehicle sound environment

