Abstract:
Automated driving is on the advance and is linked to benefits such as an increasing comfort for the driver as well as safety promotion and rising fuel and transport efficiency. Due to the rising level of automation, drivers will become more and more excluded from their actual driving task resulting in phenomena such as an inadequate level of trust in the automated system or a lack of accurate knowledge about the system’s capabilities and limitations. This paper describes a study on evaluating a system transparent human-machine-interface that offers information about the longitudinal automation’s current state and actions. To promote transparency, an approach of system confidence information (SCI) has been developed. Linear mixed models reveal that the presentation of SCI decreases braking reaction time in the case of automation failure, and in addition indicate improved situation awareness. The experimental results provide support for the hypothesis that presentation of system confidence information improves the driver-automation cooperation.

Stichworte:
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