Distraction and Driving Behavior by Presenting Information on an Emissive Projection Display Compared to a Head-up Display

Abstract:
A study in the static driving simulator examines whether the use of an Emissive Projection Display (EPD) causes significant effects on attention and cognitive load in addition to the driving task. Moreover, a comparison with a conventional Head-Up Display (HUD) is drawn. Conclusions regarding the driver's stress resulting parallel to the driving task are objectively determined by reaction times that are needed to perform a visual secondary task. The results of the analysis of objective data show significant extensions in the response times the performing the secondary task for the EPD, compared to HUD. Also data for the subjective assessments of workload during the different test runs are discussed.