
The DESMORI Simulator – Review of its First Decade

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Submitted: 28/02/2023

Revised: 31/05/2023

Abstract:

The DESMORI¹ Simulator was developed in a collaboration between the Würzburg Institute for Traffic Sciences and the Institute for Automotive Engineering at Technische Universität Darmstadt as a tool for human factors research. As depicted in **Figure 1**, it consists of a Hexapod, that is placed in the center of a cylindric projection screen. It stands out from other dynamic motorcycle riding simulators by its use of a so-called “*g-vest*”, that excites riders’ proprioceptive cues in the longitudinal direction, and a so-called “Dual-Loop-Rider-Control”, that allows to control the simulator not only via steering but body motion as well.



Figure 1: The DESMORI Simulator

This contribution discusses some of the main findings of the first decade of developing and using the simulator. This includes a discussion about speed perception on the simulator, the application of the simulator in the testing of autonomous emergency braking system development, utilization of a rider leaning input, a comparison between the DESMORI simulator with a static simulator and a real vehicle, a discussion on the simulator’s accessibility to naïve simulator riders as well as overall experiences of the simulator use in funded projects and contract research.

¹ DESMORI – “**DE**velopment **S**ervices for **MO**torcycle **R**ider **I**nteraction”, Nationally funded project: ZIM KF3209301