

Novel Methods for Surface Safety Monitoring

The principle

Sustainable pavement management and efficient road maintenance are becoming more and more important for road operators and road authorities. Measures to be taken and warnings to be issued strongly rely on up to date and accurate data concerning road conditions.

The rationale

Low friction road section often cannot be perceived by drivers, thus constituting great danger in everyday road traffic. Although modern cars (equipped with "stability programs") provide advanced security and even issue warnings to the driver, this does not yet include a warning prior to the affected road section or even to succeeding drivers, nor information to road maintenance authorities, who could mitigate the given situation for the sake of all road users.

The terms road friction and skid resistance are of minor use for the road user and have to be translated in order to make them generally understandable for drivers. The technically important value is expected stopping distance and the communication to the driver could be a simplified classification, which is a matter that still needs investigation.

The practice

The INTRO strand "Novel Methods for Surface Safety Monitoring" focuses on data that could be available from standard cars in near future. By merging these data and data from standard measurements (as carried out in many countries on a regular base), a system shall be designed and demonstrated in a pilot, that detects warnings and causes for local road surface insufficiencies of temporary and permanent nature. This affects winter maintenance topics as well as low friction road sections in summer.

The data collected by the probe vehicle will be analysed in different ways, thus deducing relevant information for road authorities on one hand and road users on the other. The results will be processed and conveyed in a way that road authorities can take immediate countermeasures (e.g. black ice sections, leaves/mud on the road) and road users (having a unit issuing advanced warnings at their hands) can adapt their speed and way of driving to the oncoming hazardous area.

The expected contribution to active road safety of such a driver warning system will be assessed in one of the world's leading driving simulators.

Contact:

Stefan Deix, arsenal research

e-mail: Stefan.Deix@arsenal.ac.at

Tel: +43 50550 6477

Fax: +43 50550 6599

Contributors to the research:



INTRO is supported by funding under the Sixth Research Framework Programme of the European Union

arsenal research
Ein Unternehmen der Austrian Research Centers



FEHRL

vti