

## عنوان مقاله:

A New Approach for Modeling Vehicle Safety Based on Cooperative Awareness in Emergency Scenarios

## محل انتشار:

هفتمین سمپوزیوم بین المللی پیشرفتهای علوم و تکنولوژی (سال: 1391)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Supporting of Safety Applications is the main motivation behind the development of Vehicular Networks. These applications are supposed to specify the safety level of the current situation and then, inform the control system or the driver. The success of safety applications relies on delivering messages in a timely manner. Delivered messages are used to establish a certain level of awareness about the surrounding area for the receiver vehicle. Successive message losses will degrade the reliability of safety applications and also, reduce the level of awareness. So, determining the impact of successive packet losses on safety and awareness is important. This paper models the safety and awareness values according to successive message losses using Markov chain model. Our model provides some new guidelines for analyzing a vehicle's safety based on the current situation of the network and the vehicle's kinematical properties. This model gives us the channel situation as well as the vehicle's risk value. In the proposed model, the uncertainty of the driver perception about an upcoming event due to the lack of information is also taken into account. We numerically investigate the impact of distance and velocity on safety. The safety applications can use this model to make decisions in order to prevent the upcoming accidents.

## کلمات کلیدی:

Vehicular Networks, Safety Modeling, Markov chain model, Awareness, Uncertainty

## لینک ثابت مقاله در پایگاه سیویلیکا:

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