縱向防撞警示系統演算法則之參數數值分析

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摘要

The rear end collision warning system (RCWS) is one of the driving assistant subsystems in the advanced safety vehicle (ASV). The algorithm of RCWS concerns many human factor parameters of driver's psychology-behavior response. Maximum desired following distance of warning system opening, perception reaction time, braking deceleration and stationary vehicle spacing of warning threshold are four major parameters in the RCWS algorithm. The suitable combination of these four parameters will be different by different driver psychology-behavior characteristics. Since the effect of RCWS algorithm calculated threshold will be different for risk drivers and conservative drivers by applying different sets of parameters, this study collects and reviews the RCWS algorithms and analyzes the effect of RCWS algorithms by different parameter characteristics of maximum desired following distance, perception reaction time, braking deceleration and stationary vehicle spacing. The results of this study will be the basis in developing a useful RCWS to provide the best safety alert timing with the least disturbance to drivers.

關鍵字：Maximum Desired Following Distance, Perception Reaction Time, Braking Deceleration, Stationary Vehicle Spacing, Rear End Collision Warning System (RCWS).