

VISOKA ŠOLA ZA PROIZVODNO INŽENIRSTVO

DIPLOMSKO DELO

**RAZVOJ IN IZDELAVA NAPRAVE ZA SIGNALIZACIJO INTENZIVNEGA
ZAVIRANJA MOTOCIKLA**

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POVZETEK

Motocikel je manjše vozilo kot avtomobil in ima praviloma le eno zavorno luč ali pa dve, ki sta nameščeni dokaj blizu. Tako drugi vozniki v pogojih slabše vidljivosti težje ocenijo razdaljo do motocikla in s tem tudi hitrost oz. razliko hitrosti med njimi in motociklom. Zaradi zakona o obvezno prižganih zasenčenih žarometih tudi podnevi pa zavorna luč ob aktivaciji še težje pride do izraza. Ena izmed možnih rešitev za dvig pozornosti drugih voznikov bi bila utripajoča zavorna luč. A če bi luč utripala ob vsakem zaviranju, bi utripanje izgubilo svoj učinek vzbujanja pozornosti – utripati mora samo, kadar gre za močno zaviranje, torej kadar obstaja nevarnost naleta od zadaj.

V slučaju aktivacije naprave (utripanje zavorne luči) je zadaj vožečemu vozniku nemudoma jasno, da voznik spredaj intenzivno zmanjšuje hitrost, zato se reakcijski čas zadaj vožečega skrajša, zavirati začne prej, zato se zavorna pot skrajša v primerjavi z zavorno potjo brez uporabe naprave. Krajša zavorna pot pomeni višjo raven aktivne varnosti, kar je tudi cilj tega diplomskega dela.

Razvili smo napravo, ki v primeru intenzivnega zaviranja povzroči utripanje zavorne luči. To napravo smo optimirali za maloserijsko proizvodnjo.

Ključne besede: motocikel, varnost, utripajoča zavorna luč, Bascom

SUMMARY

A motorcycle is a vehicle, smaller than a car and usually has got one or two brake lights which are installed rather close together. When driving in low visibility conditions, other drivers have difficulties of evaluating distance and therefore speed difference between their vehicle and the motorcycle. The mandatory use of headlights is required by law at any time of the day. As a result, a brake light can be too dim and hardly noticeable when being activated. One of the possible solutions to increase other drivers' attention is a blinking brake light. However, if the light blinked at every deceleration, blinking would lose its effect of drawing attention. The light should start blinking only when it senses hard deceleration and there is a danger of a rear-end collision.

In case of device activation (brake light blinking) it is clear that the driver is decelerating, therefore the reaction time of the driver driving behind him is shortened. A braking distance is shorter when using a device than when not using it. A shorter braking distance means a higher level of safety, which is also a goal of this diploma.

We developed a device which senses strong deceleration and causes blinking of a brake light. The device was optimized for small series production.

Key words: motorcycle, safety, blinking brake light, Bascom