

SUMMARIES  
REZIMEA

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**INFLUENCE OF AIR RESISTANCE TO STABILITY AND SAFETY OF THE  
PASSENGER CAR**

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Among variety of elements that influence the longitudinal vehicle stability and safety during braking the very important is the body shape. This influence is taken into account via air resistant force(s) (tangential and vertical component) included in the balance equations of the vehicle. Using certain range of the vertical air resistance coefficient values ( $c_z$ ), different body shapes are considered and their influence on the wheel locking limit on the front and rear axle. Finally, the vehicle braking distance length is calculated and presented on diagrams for different adhesive coefficient values and stable driving conditions.

**Key words:** *air resistance force, braking, critical deceleration, braking distance*

**UTICAJ OTPORA VAZDUHA NA STABILNOST I BEZBEDNOST  
PUTNIČKOG AUTOMOBILA**

Među mnogobrojnim elementima koji utiču na podužnu stabilnost vozila pa prema tome i na bezbednost tokom kočenja, kao veoma važan faktor se izdvaja oblik automobila. Ovaj uticaj je uzet u obzir putem sila otpora vazduha tj. tangencijalne i vertikalne komponente u jednačinama ravnoteže vozila. Korišćenjem određenog opsega vrednosti koeficijenta vertikalnog otpora vazduha, posmatrani su različiti oblici karoserije automobila i njihov uticaj na granicu blokiranja točkova prednje i zadnje osovine. Na kraju rada je putem grafika predstavljen put kočenja vozila u zavisnosti od koeficijenta prijanjanja pri stabilnim uslovima vožnje za različite vrednosti koeficijenta vertikalnog otpora vazduha.

**Ključne reči:** *sila otpora vazduha, kočenje, kritično usporenje, put kočenja*