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ANALYZE OF CHANGES IN EXTERIOR DIMENSIONS OF PASSENGER CARS DURING COLLISION WITH FIXED BARRIERS

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Presently extended crash tests and actual road accident investigation, parallel with different procedures in collision analysis, yield a technical criteria which have to be respected in order to achieve a maximum on passive safety with a reasonable financial efforts. Most of the basic design criteria for the "safe vehicle" are connected with vehicle dynamics, so in this paper were analyzed changes of exterior dimensions of passenger car after collision with a rigid and elastic fixed barriers. In this paper changes of exterior dimensions of passenger cars were analyzed, and also were published the results of researches carried out in USA, where the collision of passenger car "Yugo" with elastic guardrail have been tested. Summary of the results of mentioned researches could be used to complete the criteria for improvement of passive safety of passenger cars.

Key words: crash test, vehicle, fixed barrier, deformation.

ANALIZA PROMENA SPOLJNIH DIMENZIJA VOZILA PRILIKOM NALETA NA NEPOKRETNE PREPREKE

U cilju povećanja pasivne bezbednosti, danas zastupljeni "crash" testovi i aktuelna istraživanja saobraćajnih nezgoda na putevima, paralelno sa primenom različitih metoda za analizu sudara, proizveli su tehničke kriterijume koje treba poštovati u cilju dostizanja maksimalne pasivne bezbednosti uz razumljiva finansijska ulaganja. S obzirom da je većina osnovnih projektantskih kriterijuma za "sigurno vozilo" iz oblasti dinamike vozila, u radu su analizirane promene spoljnih dimenzija vozila prilikom naleta na krute i elastične nepokretne prepreke. Pored detaljne analize promene spoljnih dimenzija kod vozila stranih proizvođača, u radu su prikazani rezultati istraživanja, sprovedenog u SAD, u kome je vršeno ispitivanje naleta putničkog vozila "Yugo" na elastičnu zaštitnu ogradu. Pregled rezultata gore navedenih istraživanja bi se mogao koristiti za upotpunjavanje kriterijuma za poboljšanje pasivne bezbednosti putničkih automobila.

Ključne reči: crash test, vozilo, nepokretna prepreka, deformacija.