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IDENTIFICATION OF OSCILLATORY PARAMETERS OF MOTOR VEHICLES

Identification of oscillatory parameters of motor vehicles, as well as of dynamic systems in general, represents a very complex problem. Many experimental-theoretical procedures were developed in order to perform it, but there is no generally excepted method.

An attempt to develop and verify a method for identification of oscillatory parameters of motor vehicles has been made in this paper. The method is planned in such a way, that identification of unknown parameters is done on the basis of experimental data and oscillatory models with known structures but unknown oscillatory parameters and by using the methods of nonlinear programming.

Considering the experimental data and the adopted oscillatory model, the oscillatory parameters of the vehicle were identified by using the developed method and the computer HP 9000/835 SE.

Keywords: Vehicle, Oscillatory model, Oscillatory parameters, Parametric identification.

IDENTIFIKACIJA OSCILATORNIH PARAMETARA MOTORNIH VOZILA

Identifikacija oscilatornih parametara motornih vozila, kao i dinamičkih sistema uopšte, pred-stavlja veoma komleksan zadatak. U literaturi postoji veći broj razvijenih metoda, ali nijedna nije opšte primenljiva.

Cilj rada je bio da se razvije i verifikuje metoda za identifikaciju oscilatornih parametara motornih vozila. Metoda je zasnovana na korišćenju oscilatornih modela poznate strukture, a nepoznatih parametara, eksperimentalnih podataka, kao i metoda nelinearnog programiranja.

Na osnovu eksperimentalnih podataka, ranije razvijenog modela vozila i razvijene metode za identifikaciju, nepoznati oscilatorni parametri su identifikovani uz korišćenje računara HP9000/835 SE.

Ključne reči: Vozilo, Oscilatorni model, Oscilatorni parametri, Parametarska identifikacija.