

AN APPROACH TO VEHICLE RESEARCH

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ABSTRACT: Vehicle's performance is in relation with its structure, design parameters and interaction with the environment. The domain of the vehicle research is a typical example of interconnectedness and interdependence of theory and experiment. In this paper, problems of combining mathematics - simulation and experimental research of vehicles are considered. The appropriate simulation models are formed and necessary preliminary experiments were carried out. A concept of augmented system with extended Kalman filter is realized and used. Some illustrative results of the research done by this methodology are presented and discussed.

KEY WORDS: vehicle, research, estimation, Kalman filter

PRISTUP ISTRAŽIVANJU VOZILA

REZIME: Performanse vozila su u vezi sa svojom strukturom, parametrima dizajna i interakcijom sa okolinom. Domen istraživanja vozila je tipičan primer povezanosti i međuzavisnosti teorije i eksperimenata. U ovom radu, razmatrani su problemi kombinovanja matematike – simulacija i eksperimentalnog istraživanja vozila. Formirani su odgovarajući modeli simulacija i sprovedeni su potrebni eksperimenti. Koncept augmentovanog sistema sa proširenim Kalmanovim filterom je realizovan i korišćen. Neki ilustrativni rezultati istraživanja urađeni ovom metodologijom su predstavljeni i diskutovani.

KLJUČNE REČI: vozilo, istraživanje, procena, Kalmanov filter

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