عنوان مقاله:

Modeling and Simulation of Geometric Non-uniformity Effects of Tire on Steering System

محل انتشار:

دومین کنفرانس بین المللی آکوستیک و ارتعاشات (سال: 1391)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Sayyad Nasiri - *Mechanical faculty, Sharif University of Technology, Azadi Street, Poatal Code: ۱۱۳۶۵-۱۱۱۵۵, Tehran, Iran*

Abolqasem Eslami

خلاصه مقاله:

In this paper, the effects of geometric non-uniformity of tires on the vehicle’s steering system is modeled and simulated. First, the McPherson strut independent suspension and rack & pinion steering systems,which are widely used in today’s vehicles, is modeled in ADAMS software package. Then, variousconditions of tire’s geometric non-uniformity including radial and lateral run-out are simulated. After that, an analysis on effect of these cases on the behavior and dynamic of steering system, whichhas a vital role in vehicle stability and passenger comfort, is fulfilled. The simulations revealed that ifradial and lateral run-outs occur in tires, the fluctuation domain of longitudinal displacement and rack acceleration and the torque and acceleration acting on the steering wheel increase

کلمات کلیدی:

Run-out; Tire; ADAMS; Modeling