عنوان مقاله:

IMPROVING PERFORMANCE OF SUSPENSION SYSTEM BY OPTIMAL CONTROL ALGORITHM

محل انتشار:

بیست و ششمین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران (سال: 1397)

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خلاصه مقاله:

Vibration control of structures and mechanical systems have been of interest to engineers and researchers for a long time. In this study, the principles of semi-active control and rapid changes of damping coefficient are taking into account. Controller improves suspension system's performance criteria including passenger comfort and handling that are significant for the vehicle passengers and handling standards. To express the governing control law on damping at any moment the calculus of variations is utilized and an optimal controller is designed for semi-active suspension system. Another application of this study can be used in airplane to provide a means of maneuvering the aircrafl on the ground. to support the aircraft at a convenient height to give clearance for propellers and flaps, etc., to facilitate loading and to absorb the kinetic energy of landing and provide a means of controlling deceleration. Simulations results confirm that proposed optimal control law improves the performance of semi-active suspension.

کلمات کلیدی:

Suspension Performance, Landing Gear, Se1ni-active Optimal Controller, Simulation