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عنوان مقاله:

Vibration Isolation of a GA Optimized Biomechanical Model of a Railway Passenger Using MR Damper Seat Suspension

محل انتشار:

دومین کنفرانس بین المللی پیشرفتهای اخیر در مهندسی راه آهن (سال: 1388)

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خلاصه مقاله:

Driver tiredness during long term travels might result in many unwilling accidents. So, isolating the vibration transmitted to driver plays a major role in keeping the driver restful and consequently having a safe trip. In this study, the transmitted vibration of a wagon suspension to a passenger model is isolated by a semi active control strategy which is applied with a MR damper. First, a revised linear lumped parameter biomechanical model of seated human body subject exposed to vertical vibrations is optimized. To this end, the parameters of the human body model, including masses, dampers and stiffness coefficients are optimized at the same time by a multi-objective function. So, this proposed optimized model can fitted the experimental results more accurate than the previous proposed models.

کلمات کلیدی:

Human model, MR damper, Genetic algorithm, Semi active control

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