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Res. Agr. Eng.

AHMADI I.

Development and evaluation of full-

Vehicle vibration model of MF 285 tractor

Res. Agr. Eng., 60 (2014): 107-114

The vibration transmitted to the tractor driver not only leads to the driver health problems, but also reduces the driver working efficiency. One of the methods utilized to reduce driver vibration is the seat suspension system. Development of the tractor vibration model is the first step toward the implementation of the tractor seat suspension. In this research development and evaluation of full-vehicle vibration model of MF 285 tractor was considered. At validation phase, the developed model simulated the predictable outputs correctly. The modified parameters of the model reduced the simulation error by 30% compared to the model with primary parameters. Furthermore, considering the operation status of tractor engine in the simulated tractor, the simulation error was reduced from 45% to 27%.

Keywords:

step function; simulation; transmitted vibrations; Matlab software

[fulltext]