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ANALYSIS OF THE POTENTIAL ENERGY AND COMFORT SUSPENSION SYSTEM ON TRUCKS

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ABSTRACT

The energy of the fuel used by trucks cannot be fully used to drive all components of the gear that works. According to research conducted by Lei Zuo University of New York State, only 10-16 percent of fuel energy is effectively used to run everyday car - that is, to overcome the resistance of the road friction, air resistance and encourage advanced vehicles. Most of the energy just wasted.

This thesis will examine the energy lost to the suspension truck when the truck is running. In addition, this thesis will try to make the mechanism of energy harvester tool that will be named P-VERS (Portable Vibration Energy Recovery System). P-VERS. Before this tool can be realized, first conducted research on the energy can be generated by P-VERS equipment is mounted between the axles and truck body. This final task will be using matlab simlink to determine which power can be generated by the P-VERS. The method used in Final Half of this is the method of Car at 10 and 20 m / s on the track sinusoidal and impulses.

The data obtained from the Final of this form of displacement, velocity, and acceleration. With the acquisition of velocity of the suspension, then the power is wasted and can be captured by means of P_VERS can be determined. Suspension truck has wasted energy markets, the 3601 and 7806 on the front suspension on the rear suspension with sinusoidal trajectory and...
speed of 20 m / s. This occurs on the addition of damping coefficient to 50% of the damping coefficient trucks ..

Key words: half car, suspension, energy harvesters, P-VERS