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ENERGY EFFICIENCY OF ELECTRIC VEHICLE REGENERATIVE MODE

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Abstract

Relations for the determination of energy, which can be returned to the power source of the electric vehicle when the braking system is implemented in the regenerative mode by the electric drive, are derived. The cases of dynamic decrease in speed and descent with a given speed are considered. The losses from frictional forces and aerodynamic drag of air are taken into account. The dependence of the specific energy saving on the parameters of motion is obtained. Calculations have been made for standard urban traffic cycles and it is shown that savings can reach 12…22% of total traffic consumption. References 11, figures 5.

Key words: electric drive, electric vehicle, energy efficiency, regenerative braking.

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