

Control methods of the switched reluctance motor in electric vehicle during acceleration

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Abstract

In this paper, the equations describing the performance of the electric vehicle are derived. Performance characteristics for each part in the vehicle system are obtained when the vehicle is accelerated under voltage, turn on, and turn off angle control. A comparison between the different methods of control is established. From these comparisons, it can be noticed that the acceleration time, for the case at which the turn on angle is controlled, will be smaller than that for the other cases; also the motor efficiency, at the voltage control method, has the highest value especially at the higher values of the vehicle speed.

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