

عنوان مقاله:

PROVIDING A METHOD FOR IMPROVING THE STARTUP CONDITIONS OF INDUCTION MOTORS BASED ON
CHANGING THE LOAD CHARACTERISTICS

محل انتشار:

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خلاصه مقاله:

In this paper, the problem of starting an induction motor is investigated and a solution is presented. The large current and considerable torque pulsation of the starting can damage the motor and other consumers connected to the feed line, and increasing the startup time will cause more heat and damage to the winding insulators. Various methods exist for startup of the induction motor, including the stator voltage control via wye-delta circuit breaker, autotransformer, and new methods such as soft starter, as well as methods for controlling the rotor s resistance, and control of V/f. However, in this research, by connecting a torsion spring between the motor shaft and the load, a new method of startup has been proposed. Therefore, due to the delay in the rotation of the load during the absorption of energy in the torsion spring it is possible to rotate loads with a torque beyond the motor starting torque, and to reduce the motor startup time as much as 77%. These cases increase the lifetime of the motor, and reduce economic costs

کلمات کلیدی:

Induction motor, Spring Starting, D-Q Transformation, starting current, Starting Torque, Load Model, Dynamic Modeling

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