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Exploring the potential of artificial intelligence based flywheels as energy-saving devices in industrial settings
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Abstract

A flywheel with a changeable moment of inertia is known as variable Inertia flywheel (VIF) can be proposed to overcome complexity on moment of inertia that causes difficulty during rotating machine start-up. While there is an extensive amount of literature on VIF control strategies, very little addresses practical considerations. Depending on the parameters of the application system, a VIF system may be designed and built using a relatively simple control approach. To determine how a semi-active VIF control system and the input parameters of a rotating electrical machine relate to one another in minimizing energy losses, this study collects data from a VIF linked motor system. The last step in developing an intelligent semi active control for the rotating machine linked with VIF is to utilize a machine learning method to predict the parameters of the control application system. © 2024 Author(s).

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