

Control and speed stabilization of a three-phase squirrel-cage induction motor for a lifting and transport machine system.

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Abstract: In practice, controlling and stabilizing the speed of a three-phase squirrel-cage induction motor plays a crucial role in lifting and transport machinery systems. This topic aims to address the issue of motor speed variation caused by load impacts and harsh working environments, thereby building an intelligent control system to optimize performance and extend equipment lifespan. The research methodology includes both theoretical analysis and experimental application deployment on a modern technology platform. The expected results will make an important contribution to enhancing operational capacity and improving service quality in the cargo transport industry.

Keywords: Induction motor, Speed control, Squirrel cage rotor, Hoisting and transport machinery, Performance optimization