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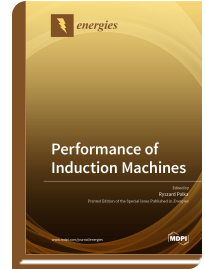
Performance of Induction Machines

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Induction machines are one of the most important technical applications for both the industrial world and private use. Since their invention (achievements of Galileo Ferraris, Nikola Tesla, and Michal Doliwo-Dobrowolski), they have been widely used in different electrical drives and as generators, thanks to their features such as reliability, durability, low price, high efficiency, and resistance to failure.

The methods for designing and using induction machines are similar to the methods used in other electric machines but have their own specificity. Many issues discussed here are based on the fundamental achievements of authors such as Nasar, Boldea, Yamamura, Tegopoulos, and Kriezis, who laid the foundations for the development of induction machines, which are still relevant today. The control algorithms are based on the achievements of Blaschke (field vector-oriented control) and Depenbrock or Takahashi (direct torque control), who created standards for the control of induction machines.

Today's induction machines must meet very stringent requirements of reliability, high efficiency, and performance. Thanks to the application of highly efficient numerical algorithms, it is possible to design induction machines faster and at a lower cost. At the same time, progress in materials science and technology enables the development of new machine topologies. The main objective of this book is to contribute to the development of induction machines in all areas of their applications.



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