

Conceptual aspects of equivalent circuit for an induction machine

Lobosco, O.S.

Inst. de Eletrotécnica e Energia, Sao Paulo Univ., Brazil

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Abstract:

Engineers have developed several types of models to visualize, understand and predict the behaviour of rotating electric machinery. Among these models, the stationary electric network (equivalent circuit) and vector and locus diagrams are extensively used mainly in induction machine studies. The physical picture offered by an equivalent circuit helps the understanding of the machine operation and enables the solution of the machine performance by numerical methods. Nevertheless, the development of these circuits sometimes has been presented in a superficial manner, eventually provoking uncertainties in the student's mind. In the present paper, an attempt is made to permit full understanding of the meaning of the electrical equivalent circuit for an induction machine.