

The magnetic field of asynchronous machines with concentrated winding

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Abstract

The paper is devoted to the analysis of concentrated windings, which are lately used in electric machines of alternative current. Processes for suppressing the 5 and 7 order harmonics are indicated for improving the deformed shape of magnetic induction curve of the air gap. The magnetic induction curve of air gap was estimated by applying the finite element method form and the values of the flux and magnetic induction were presented. The stray magnetic fluxes of frontal parts of concentrated winding had been determined by concomitantly applying the indicated method. The obtained results confirmed that the concentrated windings used in electromechanical converters of alternative current reduce the quantity of copper used in the front parts by approximately 25%.