

*winding asymmetry, induction machine,
axial flux, field-circuit model*

Wojciech PIETROWSKI*

FIELD-CIRCUIT ANALYSIS OF AC MACHINE TAKING INTO ACCOUNT STATOR WINDING ASYMMETRY

The paper presents the influence of an asymmetry of a stator winding on an axial flux in AC machine. The objective research was performed for selected values of asymmetry. The axial flux was calculated as the sum of flux linkage with stator winding. In order to achieve a magnetic field distribution a dedicated 2D finite element model of AC machine was elaborated. The waveforms of axial flux and torque-time characteristic have been shown. It can be concluded that the asymmetry has significant impact on the axial flux and the pulsation of torque.

* Instytut Elektrotechniki i Elektroniki Przemysłowej, Politechnika Poznańska, ul. Piotrowo 3A, 60-965 Poznań, email: wojciech.pietrowski@put.poznan.pl