PACS: 07.50.Ek

Numerical simulation of an active three-phase boost converter with power factor correction for an aircraft magnetoelectric generator

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Received 6.03.2023; revised 17.03.2023; accepted 27.03.2023

Numerical simulation of a three-phase power factor corrected step-up rectifier for an aircraft magnetoelectric generator has been performed. The effect of power and control circuit parameters on the operation mode of the boost converter is shown by using the computational model in LTSpice software. For the considered parameters of the primary circuit the optimum parameters of the control circuit, allowing to reach maximization of a power factor at the given level of a voltage on a load are determined.

Keywords: power factor corrector, boost converter, electrical circuit control system, numerical simulation.

DOI: 10.51368/2307-4469-2023-11-2-155-166

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