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FEATURES OF THYRISTOR CONTROL BY REACTORS IN “TRIANGLE” CIRCUIT FOR SIMULATION OF NONLINEAR LOAD

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Abstract

A block diagram of model of non-linear and sharply variable load, in which the power part represents thyristor-controlled reactors connected in "triangle", is proposed and considered. This model is used in the stands for testing the dynamic reactive power compensation systems, intended mainly for working in networks with arc steel-smelting furnaces. The way of control, realized in this model, enables a power part to generate in a network a wide spectrum of even and odd current harmonics. The mathematical description of the physical processes in control circuits and in a power part of load model, is executed. Recommendations for the control of the nonlinear load in studies of static and dynamic characteristics compensation devices are given, and examples of simulation and evaluation of flicker in the network are provided. References 5,

figures 5.

Key words: thyristor-controlled reactor, nonlinear load, higher harmonics, reactive power, testing stand.

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