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Development of the Six-Phase Static Converter with Symmetrical and Asymmetrical Control for Electric Vehicles

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Abstract

The paper presents the development of a six-phase converter coupled with a six-phase asynchronous motor with two symmetrical three-phase windings. The main purpose of this paper is to test the designed and developed symmetrical six-phase asynchronous motor controlled by the six-phase converter. Using the developed converter to measure the electromechanical characteristics of the prototype motor and the frequency characteristics. According to results is observed that the second star has low currents compared to the first star and as a result the power generated by it is less. This may be caused by the construction of the motor winding as it has been rewound.

Keywords: transportation industry, windings, stars, transportation, traction motors, frequency conversion, electric vehicles, multiphase converter, six phase motor, scalar control

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