

ABSTRACT

Master's thesis contains 102 pages of explanatory notes, 55 figures, 4 tables.

Keywords: autonomous induction generators, charge algorithm, vector control, electromechanical systems, synthesis, matlab, modeling, regulation voltage, transients, quick start

Autonomous power supply system (ACE) take a special place in the electricity. Research on the theory and practice of management ACE devoted a large amount of work. However, these studies ACE relatively scattered and not fully solve the problem of effective control.

The purpose of the work. Investigation of start-up and operation of battery systems based on asynchronous generation machine.

In the degree project explored physical limitations that affect the output voltage generating system with asynchronous generator in terms of battery life and quick start algorithm generator with simultaneous excitation and charge. The algorithm is designed based on indirect vector control with PI voltage regulator, complete with start algorithm, which consists of a linkage formation and limitations of current. This allows for rapid stimulation.

Calculation and implementation of this master's thesis provided by using the following software: Mathcad 15, MATLAB R2013, Microsoft Office Word 2013, Microsoft Office Visio 2010.

The results were reported at conferences, published two articles in the scientific and technical collections.

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