Adaptive model of a synchronous machine with parameters defined in operational modes.

Berdin A. S., Gerasimov A. S., Moiseichenkov A. N., Kovalenko P. Y. , Senyuk M. D.

In article an adaptive model of a synchronous machine for solving the problems of controlling electric modes are presented. Parameters of the model are determined by means of the data measured in operating mode. A mathematical description of the model are presented, as well as an example of calculation the parameters of model for the results of measurements of the parameters of in operating mode of a hydrogenerator during a real electromechanical transient. As a result of the calculation, the moment of inertia of the rotating masses for the turbine and hydrogenerator was determined. The proposed adaptive model can be used for emergency control tasks including the «after» principle, as well as for assessing the technical condition of synchronous machines.

Keywords: model of the synchronous machine, adaptive model, determination of model parameters.