

ADAPTIVE CURRENT CONTROL METHOD AND SYSTEM FOR ALTERNATING CURRENT SERVO MOTOR

ABSTRACT

Disclosed in the present invention are an adaptive current control method and system for an alternating current servo motor. The method comprises: obtaining an original current of a three-phase alternating current motor; inputting the original current of the three-phase alternating current motor into a current vector transformation module to generate first target data; inputting the first target data into a current control loop, and generating second target data by taking a time derivative from the first target data; and inputting the second target data and an output of the current control loop into an incremental inverse dynamics control module at the same time, and inputting an output of the incremental inverse dynamics control module into a current vector inverse transformation module. According to the present invention, a motor model required by controller parameter setting is not needed, thereby solving the problems in the prior art that motor model identification, especially online model identification greatly increases the complexity of the system, the model identification cannot ensure that the correct model and model parameters can always be obtained, and fuzzy control, sliding mode control, neural network-based control, and model reference adaptation cannot ensure the algorithm stability and the stable work under any working condition load interference environment.

[Fig. 1]