

The need to improve the performance of electromechanical drive systems is crucial. The objective is to increase the production quality of industrial processes and to use rationally our resources. In this paper, we present and use the MiniMax optimization approach to optimally tune the parameters of PI controller in a cascade simple and double PI speed controlled DC drive system and achieve operating performance improvements of these systems. These improvements are compared to those obtained using the integral based minimization criteria. The simulation results have shown the efficiency and effectiveness of the applied approach in performance and control quality improvement of the system