The design of two level power system stabilizer (PSS) controller is discussed in this article. First level is conventional PSS controller, while the second level is designed using following two methods: New Coordinated Fuzzy-PID controller and Distributed Time-Delay Neural Network (DTDNN) controller, Speed deviation and derivative of speed deviation of synchronous generator are taken as the input to the controller and voltage signal is the output of the controller.

The main function of the conventional power system stabilizers is to enhance the damping of low frequency oscillations in power system, while the power system stabilizer which is designed using Fuzzy-PID and distributed time-delay neural network improves the total dynamic response of power system to achieve the required results.

This technique is applied on a single machine infinite bus (SMIB) power system. The distributed time-delay neural network damps out the low frequency oscillations and enhances the power system stability.
system dynamic stability in the better manner than the conventional power system stabilizer.

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Index Terms

Computer Science  Artificial Intelligence

Keywords

Fuzzy-PID- Distributed Time-Delay Neural Network - (DTDNN)- frequency oscillations.