عنوان مقاله:

A Novel Control Methodology of the GCSC for Damping the SSR Oscillations based on the Neural Networks

محل انتشار:

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خلاصه مقاله:

In this manuscript a new neural network controller applied for damping the sub-synchronous resonance (SSR) originated from using a gate-controlled series capacitor(GCSC) in series compensation of a transmission is analyzed. The lowest-cost configuration of the GCSC is just discussed inthis research. In addition, this method has the capability of damping the low-frequency power oscillations (LFPO). It is shown that the GCSC can damp both the SSR and LFPO usingthe neural networks methodology. In this study, the IEEE First Benchmark Model including a GCSC is employed and thesoftware used for the simulation is MATLAB. A good comparison is done between the proposed methodology and theprevious control procedures. The priority index of the proposedmethodology is reducing the damping time in accordance with the other references

کلمات کلیدی:

Flexible AC transmission systems (FACTS), Gate-controlled series capacitor, Low-frequency power oscillation, Sub-synchronous resonance (SSR), IEEE First Benchmark Model (FBM), Neural network

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