

عنوان مقاله:

Improving Transient Stability by Application of a Current Controlled VSI-PWM Inverter

محل انتشار:

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خلاصه مقاله:

Flexible ac Transmission Systems (FACTS) can be applied to improve power system operation. Transient stability enhancement is one of such applications, which takes advantage of rapid dynamic response of FACTS controllers. In this paper an inverter type SVC is used to increase the critical clearing time and damp large power swings of the power system. For this purpose, two control strategies are introduced both based on Lyapunov method. These control strategies calculate the appropriate current references for the SW. The calculated references are used to control the output currents of a voltage-fed inverter. Space vector technique is used to shape the inverter output currents. In order to improve the inverter performance, multilevel inverter structures along with a new developed control system have been employed. This control method is also based on space vector technique. Inverter topologies are simulated using switching function concepts. The simulations with SIMULINK package demonstrate the validity of the introduced SVC control strategies.

کلمات کلیدی:

FACTS, ASVC, STATCON, Space Vector technique, Transient Stability

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