عنوان مقاله:
FLATNESS BASED FUZZY CONTROLLER FOR POWER SYSTEM SMIB

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نویسندگان:
Mohsen Radan - *Young Researchers and Elite Club, Najafabad Branch, Islamic Azad University, Najafabad, Isfahan, Iran*

Behzad Fayyaz Dastjerdy - *Student of Islamic Azad University, Najafabad Branch*

Iman Asghari - *Student of Islamic Azad University, Ashtyan Branch*

خلاصه مقاله:
In this paper, a novel approach for the design of an indirect adaptive fuzzy output tracking excitationcontrol of power system generators is proposed. The method is developed based on the concept of differentially fl at systems through which the nonlinear system can be written in canonical form. Thefl atness-based adaptive fuzzy control methodology is used to design the excitation control signal of a singlemachine power system in order to track a reference trajectory for the generator angle. The considered powersystem can be written in the canonical form and the resulting excitation control signal is shown to benonlinear. In case of unknown power system parametersduetoabnormalities, the nonlinear functionsappearing in the control signal are approximated using adaptive fuzzy systems. Simulation results show thatthe proposed controller can enhance the transient stability of the power system under a three-phase toground fault occurring near the generator terminals

کلمات کلیدی:
Power system Stabilizer; Fuzzy Logic Controller; FlatnessControl;Synchronous Machine