

عنوان مقاله:

Improved performance of a Doubly-fed Induction Generator using a Observer based controller

محل انتشار:

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خلاصه مقاله:

The application of a doubly-fed induction generator (DFIG) in variable-speed wind turbines includes many advantages. The active and reactive powers in the DFIG generate an interaction impact and inter-dependent relationship, affecting each other. This effect would not result in desirable reference tracking. To remove the interaction impact, common methods such as state feedback decoupling can be applied. However, system robustness is too low against wind speed variation and consequently to that of rotor speed, which is inevitable. This disadvantage can be overcome by the suggestion of a state observer based controller. The performance of the DFIG with this controller is simulated and compared with that of Proportional-Integral controller (PI) with state feedback decoupling.

کلمات کلیدی:

doubly fed induction generator (DFIG), active and reactive power, robust control, observer based controller

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