

## عنوان مقاله:

Different Strategies in Designing Pitch Controller for Variable Speed Wind Turbine

## محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

تعداد صفحات اصل مقاله: 6

## نویسندگان:

Ebrahim Tarsayi - *Master of Science Student And Electronic Engineering Khorasan Institute of Higher Education Mashhad, Iran*

Ali Karsaz - *Assistant Professor Dept. of Electrical Engineering, Khorasan Institute of Higher Education Mashhad, Iran*

## خلاصه مقاله:

In this paper the detailed model of a typical wind turbine with permanent magnet synchronous generator is extracted by using mathematical equations, simulation and system identification. There are a lot of limitations in this turbine performance and control caused by mismatching among components which is not avoidable during the production process. The main idea of pitch controller is to consolidation the power and generator speed over the rated wind speeds. An efficient pitch controller will lead to reduce the mechanical stress and fatigue on the pitch actuator and guarantee the wind turbine stability. In this paper four pitch control methods are presented to pitch regulation and performance enhancement of a 108 KW wind turbine. These controllers are utilized and compared to regulation of the pitch angle in practical application. These four controllers are PI, fuzzy, fuzzy-PI and gain scheduled PI controllers which are designed to be applied to an actual wind turbine. The result of comparison among these four methods .shows that the fuzzy-PI controller provides an appropriate pitch control signal

## کلمات کلیدی:

Fuzzy Logic; Gain Scheduling; PI Controller; Pitch Control Wind Turbine

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/497505>

