

عنوان مقاله:

Application of Wireless Power Transfer in Pitch Angle Control in Wind Turbines

محل انتشار: دومین کنفرانس سالانه انرژی پاک (سال: 1391)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

This paper investigates the use of Wireless Power Transfer (WPT) technology as a substitute for mechanical slip rings in pitch angle control for windturbines. Due to wear and tear problems and high maintenance costs of slip rings, contactless slip rings can be used instead of conventional mechanical sliprings. Contactless slip ring is a maintenance-free alternative and doesn't have the friction and heating problem that conventional slip rings have. In this paperafter explaining the importance of pitch angle control, wireless power transfer technology is introduced and implementing WPT in pitch angle control system isinvestigated. For a better understanding of wireless power transfer, simulation of a WPT electronic circuitis performed and maximum efficiency condition is studied. Finally, it is concluded that implementing contactless slip ring instead of common slip ring inwind turbine is feasible

كلمات كليدى:

Wind turbine, Pitch angle control, Contactless slip ring, Proxi-ring, Wireless power transmission

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/170501

