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Modeling and simulation of wind energy chain conversion

S. Bellarbi[a,*], N. Kasbadji merzouk[b], A. Malek[a], C. Larbes[c]

[a]*Center for Development of Renewable Energy, Bouzareah, W. Algiers, Algeria*
Email: sbellarbi@cder.dz
[b]*Solar Equipment Development Unit/EPST/CDER, W. Tipaza, Algeria*
[c]*Ecole Nationale Supérieure Polytechnique, W. Algiers, Algeria*

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ABSTRACT

Alongside the substantial market for wind generation of high power systems grows smaller power (about 100 W to several kW) which is especially dedicated to remote sites. The chain of energy conversion is very different from those of great power, they are often based on the use of a three-phase alternator with permanent magnets debiting directly through a rectifier diodes in a generally electrochemical battery low voltage (12–48 V). In this article, we propose a model of the conversion chain, few conventional, for the estimation of energy production.

Keywords: Wind turbine generator; Synchronous generator; Permanent magnetic; Continuous source; Fuzzy logic; Simulation

*Corresponding author.

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