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### بيانات عن البحث الرابع

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## ملخص البحث الرابع

### ملخص البحث باللغة الإنجليزية :

The crisis of electricity generation in Egypt requires the need to study the possibility of using renewable energy as a way to solve this problem. Also, renewable energy reduces pollution resulting from the use of traditional methods of electricity generation. The main objective of the paper is the dynamic study of a stand-alone wind turbine based self- excited induction generator (SEIG) under nonlinear resistive loads at fixed pitch angle and different wind speed. The approach is based on the dynamic equations for SEIG, turbine, and nonlinear resistive loads using MATLAB/SIMULINK. The dynamic study of the isolated wind turbine based SEIG under nonlinear resistive load, indicate that the system is reliable, dependable, and fulfillment. From the results the system can be used as a reflected source of the unified network as a step to solve the crisis of electricity generation in Egypt and also as a clean energy.