

البحث رقم (1)

Minimum cost-based design of isolated PV-wind hybrid system considering the PV tilt angle and wind turbine hub height as design parameters using genetic algorithm	عنوان البحث :
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<p>The optimal sizing of a hybrid energy system may be a difficult undertaking problem, because of the huge number of structure settings and the irregular nature of solar radiation and wind power sources. This issue has a place with the classification of combinatorial enhancement, and its solution dependent on the classical technique may be a waste of time. In the present paper, the generation cost of isolated PV-wind by bird system is minimized by increasing the capacity factor of the system by adjusting both of PV-tilt angle and wind turbine hub height such that the average generated power is as near as possible to the generation peak. By considering the PV-tilt angle and the turbine hub height, the diversity between the two generation patterns increases resulting in lower cost. The objective of the present paper is to find the optimal design of the PV-wind hybrid system based on minimum cost criterion using a genetic algorithm. Also, it studies the effect of considering the PV-tilt angle and wind turbine hub height as design parameters for different diversity levels of wind speed and sun irradiance patterns.</p>	