

# Artificial Neural Network (ANN) Method for the Integration of Solar and Wind Hybrid Energy Sources into Telecommunication Systems

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**Abstract:** In order to sustain monetary growth, the introduction of renewable energy into the electricity grid is crucial especially for many foreign African locations. Thus, in order to reap sustainable strength, these foreign locations may also outfit their airport electrical equipment with advanced synthetic intelligence technologies. For a distributive hybrid solar strength grid, the paper attempts to propose an actual-time energy management algorithm. It continues with the combining of photovoltaic and wind energy for network simulation. As a function of the number of wind aero-mills and photovoltaic solar panels, a multi-goal approach is proposed to optimize the spectral efficiency of the location and the energy performance. For the MATLAB software simulation, radio criteria for Cell Wireless Interoperability Medium Access (WiMAX) technologies are taken into account. The obtained effects are much mitigated however theoretically encouraging for the mixing of green energy integration into the modern telecommunication structures.

**Keywords:** Artificial neural network (ANN), Green energy, multi-objective problem, Power generation optimization, Theoretical formulation, Solar & Wind radiation prediction.

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