

Kongres Container

How to adjust the wind power generation module of the base station power supply



Overview

The paper proposes a novel planning approach for optimal sizing of standalone photovoltaic-wind-diesel-battery power supply for mobile telephony base stations. The approach is based on integration of a compr.

Can a base station power system model be improved?

An improved base station power system model is proposed in this paper, which takes into consideration the behavior of converters. And through this, a multi-faceted assessment criterion that considers both economic and ecological factors is established.

Can a base station power system be optimized according to local conditions?

The optimization of PV and ESS setup according to local conditions has a direct impact on the economic and ecological benefits of the base station power system. An improved base station power system model is proposed in this paper, which takes into consideration the behavior of converters.

How to validate the proposed control strategy for a 9 MW wind farm?

To validate the proposed control strategy, a detailed simulation study is carried out on a 9-MW wind farm simulation simulated in MATLAB/Simulink environment. This paper is organized as follows. Investigated system modelling and description are described in section 'Investigated system modelling and description'.

How does a wind farm work?

Due to low power production, only priority loads are connected to the wind farm. Remaining loads are isolated by means of proposed power management controller. In the third mode, the wind farm generates a power of 7.9 MW and power utilized by the load is 7.53 MW. The power produced is utilized by the load.

How does a base station work?

Depending on the size of base station and its traffic, the base station may also

have another sources of power such as a diesel generator, wind turbine or biofuels. The base station is a transceiver and acts as an interface between a mobile station and network using microwave radio communication.

How to optimize base station operating modes?

The method for optimizing base station operating modes does not require any changes to the system's original power supply structure. The purpose of energy conservation is achieved by adjusting the operating status of base stations [5, 6] and even shutting down some base stations according to actual user needs [7, 8, 9].

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