Unmanned communication base station wind power design

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In this letter, an energy-efficient algorithm for positioning of unmanned aerial vehicle-based base stations (UAV-BSs) is presented. The objective is to reduce the propulsion power consumption of UAV-BSs ...

We investigate the use of wind turbine-mounted base stations (WTBSs) as a cost-effective solution for regions with high wind energy potential, since it could replace or even outperform ...

In the following sections, we describe the two phases of the proposed OBOA design, including the offline design based on the given wind distribution and the OBOA design with real-time wind information ...

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In one possible design, the mounting bracket of the glass fiber reinforced plastic omnidirectional antenna is fixedly connected with the top of the cabin of the wind driven generator through a...

Furthermore, we propose a novel algorithm based on an ensemble learning optimizing the 3D trajectory of UAV-BSs over time in realistic environment with wind to reduce the propulsion energy consumption.

Discover the Pole-Type Base Station Cabinet with integrated solar, wind energy, and lithium batteries. Designed for seamless installation and remote monitoring, this energy-efficient ...

The considerable energy consumption overhead involved in flying or hovering UAVs makes them less appealing for green wireless communications. Therefore, in this work, we examine ...

Discover how hybrid energy systems, combining solar, wind, and battery storage, are transforming telecom base station power, reducing costs, and boosting sustainability.

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As a significant step beyond state-of-the-art, we consider an effect of wind. To this end, we develop a new model of a propulsion energy consumption for the UAV-BSs reflecting an impact of...

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