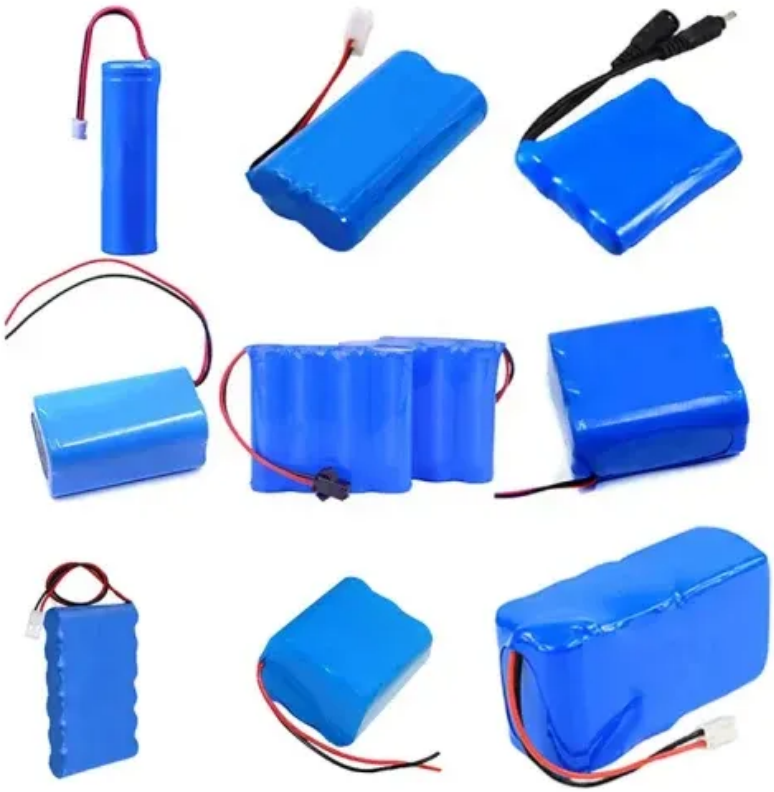
SolarTech Power Solutions

Small base station for three-dimensional communication



Overview

What is 3D aerial base station position planning based on?

Wu J, Yu P, Feng L, et al. 3D aerial base station position planning based on deep Q-network for capacity enhancement. In: IFIP/IEEE symposium on integrated network and service management (IM), Washington, DC, 8–12 April 2019, pp.482–487. New York: IEEE. 18. Luo X, Zhang Y, He Z, et al.

Can unmanned aerial vehicles be a base station for IoT?

Recently, unmanned aerial vehicles (UAVs) have been reported a lot as aerial base stations (BSs) to assist wireless communication in Internet of Things (IoT). However, most results for UAV deployment require uniform access requirements and obstacle-free environment.

How DQN algorithm is used to move air base stations?

Location moving process of air base stations using DQN algorithms. After a certain scale of learning, the network structure parameters of DQN algorithm are obtained and saved as a model. When the model is directly applied in this scenario, the aerial-BSs will stay in the optimal position of system spectrum efficiency.

Is mmWave transmission suitable for direct communication?

In addition to the advantages of large bandwidth and high-speed rate, millimeter wave has narrow beam, good directivity, and high spatial resolution, which improves the transmission efficiency, so mmWave transmission suitable for direct communications can be a feasible method here.

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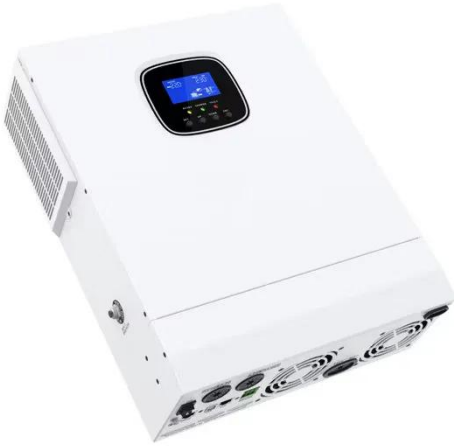
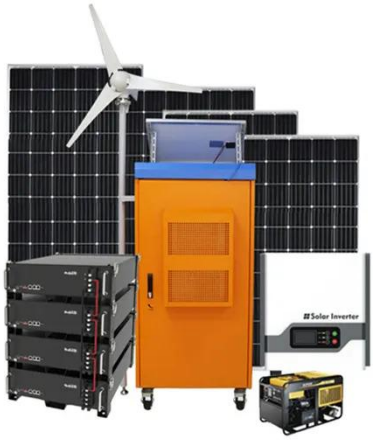


Antenna Systems for Cellular Base Stations , SpringerLink

Sep 16, 2016 · Base station antenna systems have undergone a dramatic development within the last decades: in the early days of cellular communications, the cells where more or less of ...

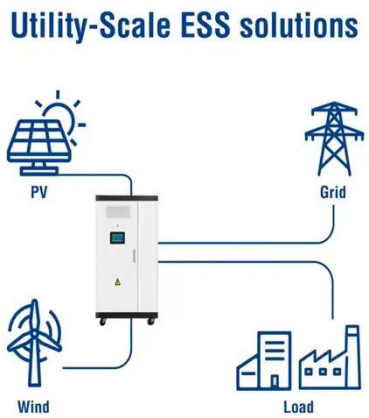
Optimizing redeployment of communication base station

Feb 6, 2025 · Signal coverage quality and strength distribution in complex environments pose severe challenges, leading to the inadequacy of traditional two-dimensional base station ...



QoS maximization scheduling of multiple UAV base stations ...

Jul 1, 2023 · The UAV-BSs have a lower cost of deployment and greater flexibility in various scenarios when compared to stationary base stations, enabling them



to provide high-quality ...

WO/2014/063653 METHOD, DEVICE AND BASE STATION FOR COMMUNICATION ...

Disclosed in an embodiment of the present invention are a method, device and base station for communication in a wireless communication system by utilizing a three-dimensional beam ...

3D Deployment of Multiple UAV-Mounted Base Stations for UAV Communications

Jan 5, 2021 · This article investigates a communication system assisted by multiple UAV-mounted base stations (BSs), aiming to minimize the number of required UAVs and to improve the ...

3D Deployment of

Unmanned Aerial Vehicle-Base Station ...

Aug 17, 2021 · This paper proposes an efficient three-dimension (3D) placement of a single UAV-assisted wireless network in such cases. Our proposed model assists the ground base station ...

3D Beam Tracking for Cellular-Connected UAV

Jan 21, 2020 · Three-dimensional (3D) beamforming is an effective technique for performance enhancement in cellular-connected unmanned aerial vehicle (UAV) communications. ...

3D Deployment of Multiple UAV-Mounted Base Stations for UAV Communications

Aug 17, 2025 · This article investigates a communication system assisted by multiple UAV-mounted base stations (BSs), aiming to minimize the number of required UAVs and to improve ...

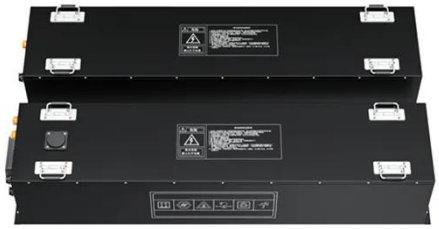
3D placement of UAVs with optimal beamforming for

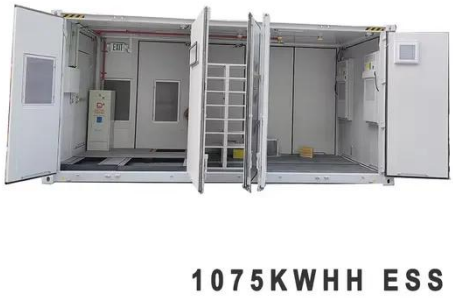
multi ...

May 1, 2023 · This article proposes the three-dimensional (3D) deployment of multiple unmanned aerial vehicles (UAVs) as relays between internet of things (IoT) access points (APs) and ...

Antenna Systems for Cellular Base Stations , SpringerLink

Jan 1, 2015 · Base station antenna systems have undergone a dramatic development within the last decades: in the early days of cellular communications, the cells where more or less of ...





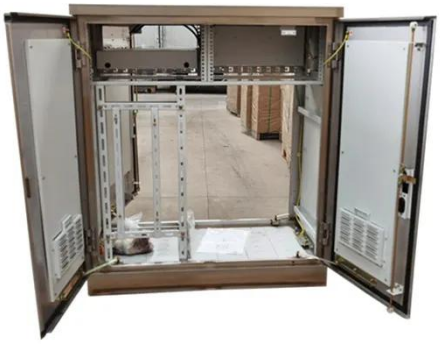
IEEE JOURNAL ON SELECTED AREAS IN ...

Apr 29, 2024 · ks. Index Terms--Drone base stations, wireless backhaul, free-space optics, mmWave, genetic algorithms, hierarchical clustering I. INTRODUCTION DRONE base ...

Cooperative 3D Beamforming for Small-Cell

and Cell ...

Jan 23, 2023 · Explicitly, we harness multiple base station antennas for joint zero forcing transmit pre-coding for beaming the transmit signals in specific 3D directions. The technique advocated ...

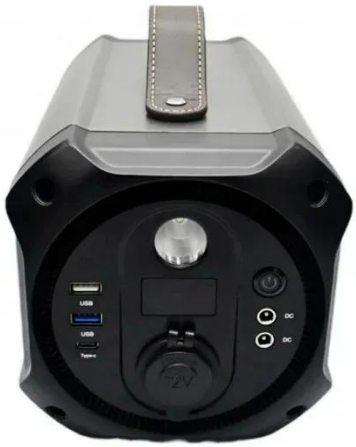


3D deployment of UAV-mounted base stations for

Nov 22, 2023 · Recently, unmanned aerial vehicles (UAVs) have been reported a lot as aerial base stations (BSs) to assist wireless communication in Internet of Things (IoT). However, ...

Energy-efficient indoor hybrid deployment strategy for 5G mobile small

May 1, 2024 · We simulate the internal structure of a three-dimensional (3D) building and the footfall over time. Within this model, we leverage the flexibility of mobile small-cell base ...



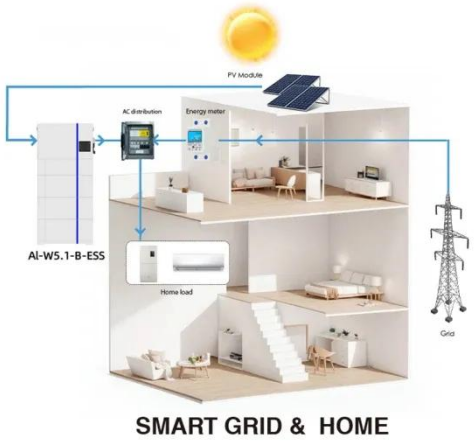
Efficient Deployment of

Small Cell Base Stations ...

Jan 5, 2025 · This is a repository copy of Efficient Deployment of Small Cell Base Stations Mounted on Unmanned Aerial Vehicles for the Internet of Things Infrastructure.

Three-Dimensional Physics-Based Channel Modeling for ...

Jul 27, 2025 · We propose a three-dimensional channel model for base-station-to-unmanned-ground-vehicle communication, where a linear fluid antenna system is equipped on the ...



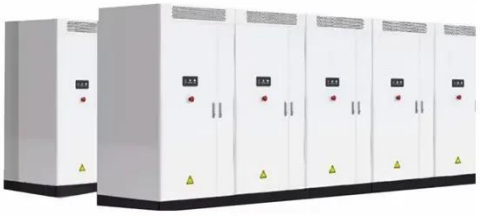
Efficient Deployment of Small Cell Base Stations ...

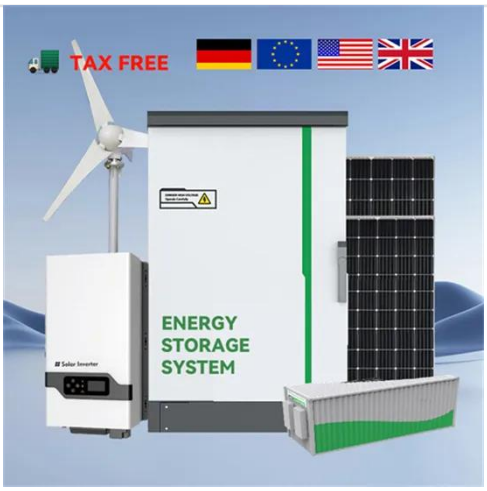
Jan 5, 2025 · flying small cell base stations (BS) a promising approach by providing coverage and capacity bluein environments where using fixed infrastructure is not economically justified. A ...

A survey of radio propagation channel

modelling for low ...

Apr 22, 2020 · The increased utilization of unmanned aerial vehicles (UAVs) in the commercial market and military on account of their agility, nonpiloted and easy manoeuvering leads their ...





Modified Least Squares Algorithm for Three ...

Jan 23, 2024 · It is shown in Figure 1, that for a two-dimensional (2D) location system, the coordinates of an undetermined target can be determined by using three or more ...

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