SolarMax Energy

How to check the movement trajectory of hybrid energy communication base stations

Overview

Does a 5G base station use hybrid energy?

In this paper, hybrid energy utilization was studied for the base station in a 5G network. To minimize AC power usage from the hybrid energy system and minimize solar energy waste, a Markov decision process (MDP) model was proposed for packet transmission in two practical scenarios.

What is energy aware trajectory optimization for aerial base stations?

Energy Aware Trajectory Optimization for Aerial Base Stations Abstract—By fully exploiting the mobility of unmanned aerial vehicles (UAVs), UAV-based aerial base stations (BSs) can move closer to ground users to achieve better communication con- ditions.

How aerial BS is different from other UAV trajectory design problems?

Different from most of the UAV trajectory design problems, where the aerial BS associates with all the ground users, e.g. , only part of the ground users can be scheduled and associated in our specific problem.

What are the standardized energy-saving metrics for a base station?

(1) Energy-saving reward: after choosing a shallower sleep strategy for a base station, the system may save more energy if a deeper sleep mode can be chosen, and in this paper, the standardized energy-saving metrics are defined as (18) R i e = E S M = 0 − E S M = i E S M = 0 − E S M = 3.

How a UAV based aerial BS transmission works?

In this paper, a UAV based aerial BS transmission is considered, where an aerial BS is dispatched for covering a maximum number of ground users before exhausting the on-board energy. An iterative algorithm based on successive convex optimization and block coordinate descent techniques is proposed.

How does distributed execution affect base station control?

In the distributed execution phase, each actor network makes decisions independently based only on its own network and observations, and although each actor executes independently, the whole system is able to obtain a better base station control strategy because their strategies are based on the results of global optimization. Fig. 2.

How to check the movement trajectory of hybrid energy communica

Energy-saving control strategy for ultra-dense network base stations

Aiming at the problem of mobile data traffic surge in 5G networks, this paper proposes an effective solution combining massive multiple-input multiple-output techniques ...

Energy Aware Trajectory Optimization for Aerial Base ...

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Energy-saving control strategy for ultra-dense network base ...

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Energy-Efficient Trajectory Optimization for UAV-Based Hybrid ...

For a UAV-assisted hybrid FSO/RF system, this paper studied the optimal trajectory of the UAV via the energy efficiency maximization. Initially,

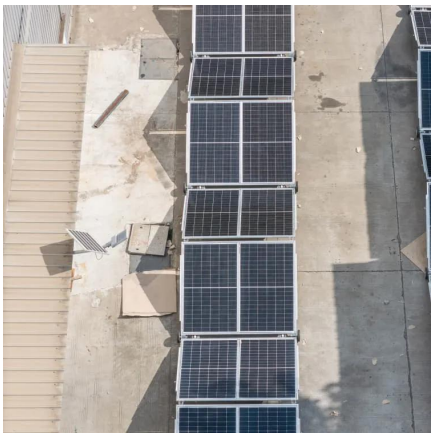
the energy efficiency of the system was analyzed.

Intelligent Energy-Efficiency Trajectory Planning of ...

With the development of 6G, emergency communication services upgrade and the need for edge intelligence is increasing. However, today's 6G emergency communication ...

[2202.03834] Managing Sets of Flying Base Stations Using Energy

In this paper, we propose a method of solving a multi-FBS 3D trajectory problem that considers FBS energy consumption, operation time, flight distance limits, and inter-cell ...



Trajectory optimization and resource allocation for UAV base stations

The application of unmanned aerial vehicles (UAVs) to emerging communication systems has attracted a lot of research interests due to the advantages of UAVs, such as high ...

On hybrid energy utilization for harvesting base station in 5G ...

In this paper, hybrid energy utilization was studied for the base station in a 5G network. To minimize AC power usage from the hybrid energy system and minimize solar ...

Energy Aware Trajectory Optimization for Aerial Base Stations

In addition, to achieve a better coverage performance, the problem of designing the initial trajectory for the UAV trajectory is considered. In the results section, UAV trajectories with the ...

Hybrid beamforming with relay and dual-base stations blockage

In this paper, hybrid beamforming for mmWave communication based on accurate CSI prediction is presented. Signal attenuation due to the blockages was mitigated by ...

Energy Aware Trajectory Optimization for Aerial Base Stations

By optimizing the energy-efficient flight trajectory of unmanned aerial vehicles (UAVs), UAV-based aerial base stations (BSs) can provide longer communication services to ...

Base Station handover Based on User Trajectory Prediction ...

In the 5G network, by judging the user's movement trajectory, the number of handovers required for the user to connect to the 5G base station can be effectively reduced. In this paper, we ...

Simulation and Classification of Mobile Communication Base ...

In recent years, with the rapid deployment of fifth-generation base stations, mobile communication signals are becoming more and more complex. How to identify and classify those signals is a ...

Trajectory data-based traffic flow studies: A revisit

In this paper, we review trajectory data-based traffic flow studies that have been conducted over the last 15 years. Our purpose is to provide a roadmap for readers who have ...

Multi-objective cooperative optimization of communication base ...

This paper develops a method to consider the multi-objective cooperative optimization operation of 5G communication base stations and Active Distribution Network ...

Energy Aware Trajectory Optimization for Aerial Base Stations

On the other hand, the trajectory of UAV is intrinsically constrained by the limited on-board energy which becomes an obstruction for serving more users. In this paper, we consider a scenario ...

Base Station handover Based on User Trajectory

In this paper, a novel algorithm based on the Reference Signal Received Power (RSRP), Reference Signal Received Quality (RSRQ) and some User Equipment (UE) ...

Radio Map-Based Trajectory Design for UAV-Assisted ...

Communication energy consumption is primarily utilized to facilitate information transmission and signal process- ing between UAVs and ground base stations (GBSs).

Semantic-AI-Based Trajectory Design of Multiple UAV Base Stations ...

Request PDF , Semantic-AI-Based Trajectory Design of Multiple UAV Base Stations in Sparse and Mobile User Environments , Designing an efficient and equitable communication ...

[Managing Sets of Flying Base Stations Using Energy ...]

an circumvent the limitations of terrestrial base stations, they face location and trajectory challenges. Numerous studies have been conducted on deploying UAVs and stations in 2D ...

Energy-Efficient Trajectory Optimization for UAV-Based Hybrid ...

Abstract This paper focuses on an unmanned aerial vehicle (UAV) assisted hybrid free-space optical (FSO)/radio frequency (RF) communication system. Considering the rate imbalance ...

Optimal location of base stations for cellular mobile network

We developed a mixed integer programming model to provide the optimal location of base stations at different time periods with the network's minimum total cost (i.e., installation ...

On hybrid energy utilization for harvesting base station ...

In this paper, hybrid energy utilization was studied for the base station in a 5G network. To minimize AC power usage from the hybrid energy ...

[2202.03834] Managing Sets of Flying Base Stations Using ...

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Base Station handover Based on User Trajectory Prediction in 5G

In this paper, we propose a 5G base station handover method based on trajectory prediction. A CNN-LSTM neural network, which combines a Convolutional Neural Network ...

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