Low-altitude base station energy management system planning

Overview

This letter studies the CKM-enabled joint air corridor planning and BS deployment problem for low-altitude ISAC networks at the planning stage, providing a stable upper-layer infrastructure and corridor layout that can be further adapted in operation to dynamic urban environments. based on the Proximal Policy Optimization (PPO) algorithm. Our approach involves calculating the low-altitude coverage capabilities o meet the high traffic demands of future wireless networks. In the considered system, unmanned aerial vehicles (UAVs) operate within a structured air corridor composed of connected. The embodiments of the present disclosure provide a low-altitude base station and ground base station collaborative management method, an electronic apparatus, and a medium. The method is applied to a low-altitude base station and comprises: receiving a cell change request initiated by a flight. Specifically, we focus on rotary-wing drones (RWDs), fixed-wing drones (FWDs), and high-altitude platforms (HAPs), analyzing their energy consumption models and key performance metrics such as power consumption, energy harvested-to-consumption ratio, and service time with varying wingspans, battery. The low-altitude economy (LAE) is rapidly advancing toward intelligence, connectivity, and coordination, bringing new challenges in dynamic airspace management, unmanned aerial vehicle (UAV) operation, and security management. Existing systems remain fragmented and lack effective coor-dination.

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Low-Altitude Supervision System: The system links military and civil aviation regulatory agencies with government management platforms,which focus on airspace policy formulation,regulatory ...

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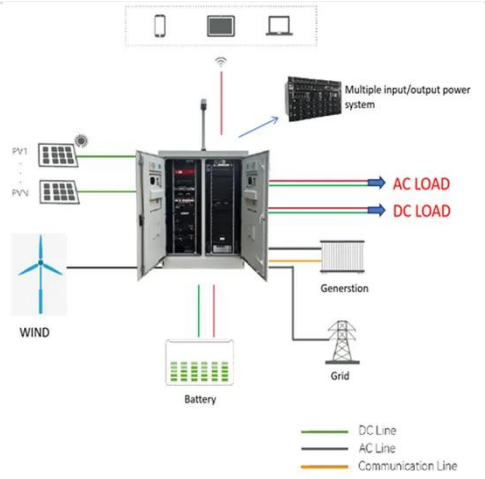

Low-altitude base station and ground base station collaborative

According to an embodiment of the present disclosure, a method for collaborative management of a low-altitude base station and a ground base station is provided, which is applied to a

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Additionally, we investigate the case study of RWD-BS deployment, assessing aerial network dimensioning aspects such as ABS coverage radius based on altitude, environment, and frequency ...

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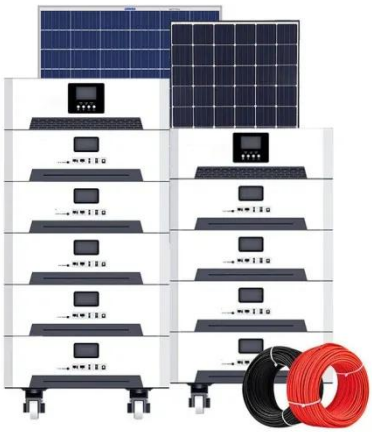

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In this study, we proposed a 3D positioning strategy for UAV-BSs that serves the maximum number of users with the smallest number of UAV-BSs.

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A Low-Altitude Network Base Station Planning Model Based on PPO

To address these challenges, we propose a novel low-altitude network base station planning model based on the Proximal

Policy Optimization (PPO) algorithm. Our approach involves calculating the ...

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