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Can unmanned aerial vehicle mounted base stations improve terrestrial communication infrastructures?

Unmanned Aerial Vehicle (UAV) mounted base stations have been widely used to enhance the existing terrestrial communication infrastructures. In this paper, we i

Can unmanned aerial vehicle-mounted base station be used for 6G wireless networks?

Scientific Reports 15, Article number: 15882 (2025) Cite this article Thanks to its flexibility and cost-effectiveness, an unmanned aerial vehicle-mounted base station (UAV-BS) is a promising technology for the upcoming 6G wireless networks.

Can UAVs be used as Aerial Base stations?

By equipping UAVs with communication units to function as aerial base stations, wireless connections can be established with ground users to improve the quality of service (QoS for short), thereby compensating for the limitations of terrestrial communication systems in terms of flexibility and coverage range.

Can tethered UAVs be used as Aerial Base stations?

To exploit the best of each type of UAV, the deployment of both T-UAVs and U-UAVs as aerial base stations is investigated. In this paper, we propose a hybrid system composed of tethered and untethered UAVs. We analyze the system by generating Monte Carlo simulations to find a compromise between the two different types of UAVs.

What is a flying base station (UAV-BS)?

In this way, these services consider the available UAVs as flying base station (UAV-BSs) to opportunistically provide network and communication assistance on the sky to ground users. Specifically, UAV-BSs are assembled with miniaturized and lightweight communication equipment and also carry computational resources for data processing [16].

Can UAV base station localization be used under GPS jammed environments?

In our paper, we propose a UAV base station (BS) localization method under aerial global positioning system (GPS) jammed environments, where the UAV-BS simultaneously provides communication service to user equipments (UEs) on ground. Unaffected UEs are utilized as reference anchor nodes to position UAV-BS to a near optimal location.

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Mar 25, 2022 The usage of unmanned aerial vehicle (UAV) as a base station is in the spotlight to overcome the severe attenuation ?

In disaster scenarios, e.g., earthquakes, tsunamis, and wildfires, communication infrastructure often becomes severely damaged. To rapidly restore damaged communication systems, we ?

Jul 24, 2023 UUE UABS GUE stands for "Unmanned Aerial Base Station Ground User Equipment," which refers to a system used in the field of unmanned aerial vehicles (UAVs) or ?

Sep 29, 2022 The unmanned aerial vehicle base station (UAV-BS) plays an important role and has unique advantages in many networking application. The current base station placement ?

Nov 17, 2024 There has been a recent increase in the studies on integrated sensing and communication (ISAC) technology within unmanned aerial vehicles (UAVs). In our paper, we ?

Oct 1, 2020 Thus, the UAV communication system is based only on UAV-to-infrastructure communication, and the communication between the UAVs can be established through the ?

Sep 19, 2022 This survey article focuses on the different applications and the related algorithms for realizing aerial base stations by thoroughly ?

Apr 4, 2025 Abstract 0 Unmanned aerial vehicle (UAV)-based base stations offer a promising solution in emergencies where the rapid deployment of cutting-edge networks is crucial for ?

Feb 22, 2025 In disaster scenarios, e.g., earthquakes, tsunamis, and wildfires, communication infrastructure often becomes severely damaged. ?

Sep 1, 2025 Ground User Equipment (GUE) consists of terrestrial communication devices that interact with both traditional and aerial base stations. These include relay stations, modems, ?

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Apr 11, 2024 The demand for air-to-ground communication has surged in recent years, underscoring the significance of unmanned aerial vehicles ?

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Apr 28, 2020 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 ?

Jan 1, 2022 Future mobile communication networks need Unmanned Aerial Vehicles as Base Stations (UAVasBSs) with the fast-moving and long-term hovering capabilities to guarantee ?

Dec 1, 2023 The deployment of Unmanned Aerial Vehicles (UAVs) as aerial base stations (UAV-BSs) has emerged as a promising solution to enhance communication services provided to ?

May 11, 2020 In this paper, a secured unmanned aerial vehicle (UAV)-assisted heterogeneous network environment, and seamless IP prototype is proposed. UAV is controlled over the ?

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