

Performance Optimization of UAVs in Communication Networks

Keywords

UAV, Wireless Networks, Resource Allocation, Optimization

Description

The decline in cost of production of UAVs and their increase in capability have opened the door to its application in various areas. One important use of UAV is for disaster scenarios, where the traditional network is not entirely operational. UAVs can be quickly and efficiently deployed to compensate for the malfunctioning infrastructure. However, for this to become reality some challenging issues must be addressed, such as the deployment position and the number of UAVs, transmit power of UAVs to users, transmit power of base stations to UAVs (wireless backhaul) and interference management. In this work, we provide solutions to the aforementioned issues by formulating relevant optimization problems.

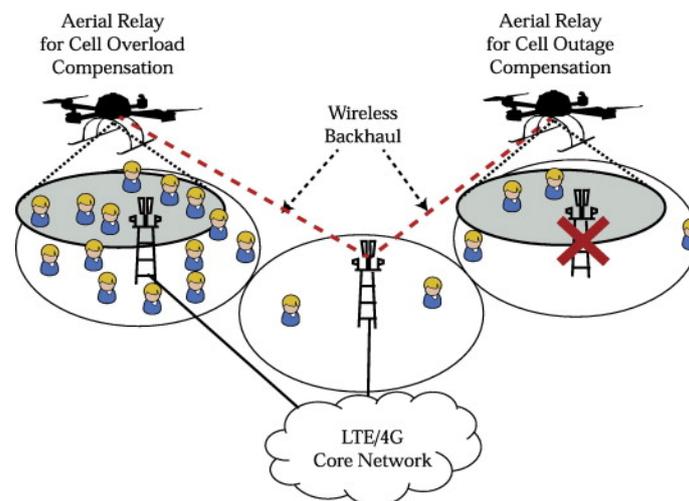


Figure 1: UAV assisted network.

Requirements

- Basic knowledge on electronic engineering
- Basic knowledge on mathematical optimization
- MATLAB programming skills
- Motivation to learn new material and work efficiently
- Fluent in written and spoken English

Contact

Alireza Zamani, Room 337, E-mail: alireza.zamani@ti.rwth-aachen.de