

# RECENT ADVANCES IN DISTRIBUTED ANTENNA NETWORK FOR GIGABIT COMMUNICATIONS

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Wireless networks must be restructured to cope with recent rapid popularity of smart phones. In the near future, everyone will be always connected to the network and will enjoy a variety of cloud computing data services (throughput per user ranges from a few kbps to close-to-giga bps) including voice/video conversation. Gigabit data services need prohibitively high transmit power and broad bandwidth if the present network architecture is employed. The available frequency bandwidth and power are too limited to provide gigabit data services to everyone.

A new wireless network architecture that can efficiently utilize the limited bandwidth and significantly reduce the transmit power is required. One promising architecture is the distributed antenna network (DAN). In this talk, we will overview the concept of DAN and recent advances in dynamic frequency reusing, massive MIMO, multiple access, frequency-domain signal processing, etc., which are important elements in realizing DAN.

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