

Cellular Architecture of Future Wireless Communication Networks

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Abstract : Nowadays Wireless system designers have been facing the continuously increasing demand for high data rates and mobility required by new wireless applications. Evolving future communication network generation cellular wireless networks are envisioned to overcome the fundamental challenges of existing cellular networks, for example, higher data rates, excellent end-to-end performance, and user coverage in hot-spots and crowded areas with lower latency, energy consumption and cost per information transfer. In this paper we propose a potential cellular architecture that separates indoor and outdoor scenarios and discuss various promising technologies for future wireless communication systems, such as massive MIMO, energy-efficient communications, cognitive radio networks, and visible light communications and we discuss about 5G that is next generation of wireless networks.

Keywords : future challenges in networks, cellular architecture, visible light communication, 5G wireless technologies, spatial modulation, massive mimo, cognitive radio network, green communications

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